

Manufacturers Record

Industry Construction



\$6.50 per Year
Single Copy, 20 Cents

Baltimore, Md.
APRIL 23, 1931

Growing Real Estate Activity

With the coming of spring there has been a noticeable quickening of interest in Southern real estate. The demand is not spectacular, but sales of all types of property have been increasing. From Georgia, Alabama, Tennessee, Florida, Louisiana and other parts of the South, reports of real estate transfers are becoming more numerous. The amount of money involved in such transactions indicates that a substantial volume of business is being developed above the usual seasonal activity.

Sound real estate is one of the surest of investments. The history of some of the nation's greatest fortunes bears this out. And there can be little doubt of the fact that based on past experience the price at which well-located property has been selling in the present depression is much below the figure that will be regarded as its value later on. Real estate, in common with other investment values, has always emerged from depressions at a higher level. Today, farm land and business property can be bought at prices considered to be far below reasonable worth when based on any ordinary expectation of normal growth of the United States.

From all indications, it is a time when prospective home owners, aided by the low cost of building, may not only build more cheaply than they can later on, but also have an opportunity to buy real estate at a low point. Surplus money now held in savings accounts, in banks, in building and loan associations and by insurance companies, will increasingly demand investment outlets.

Timidity which has governed investors will give way to recognition of sound values as they are presented.

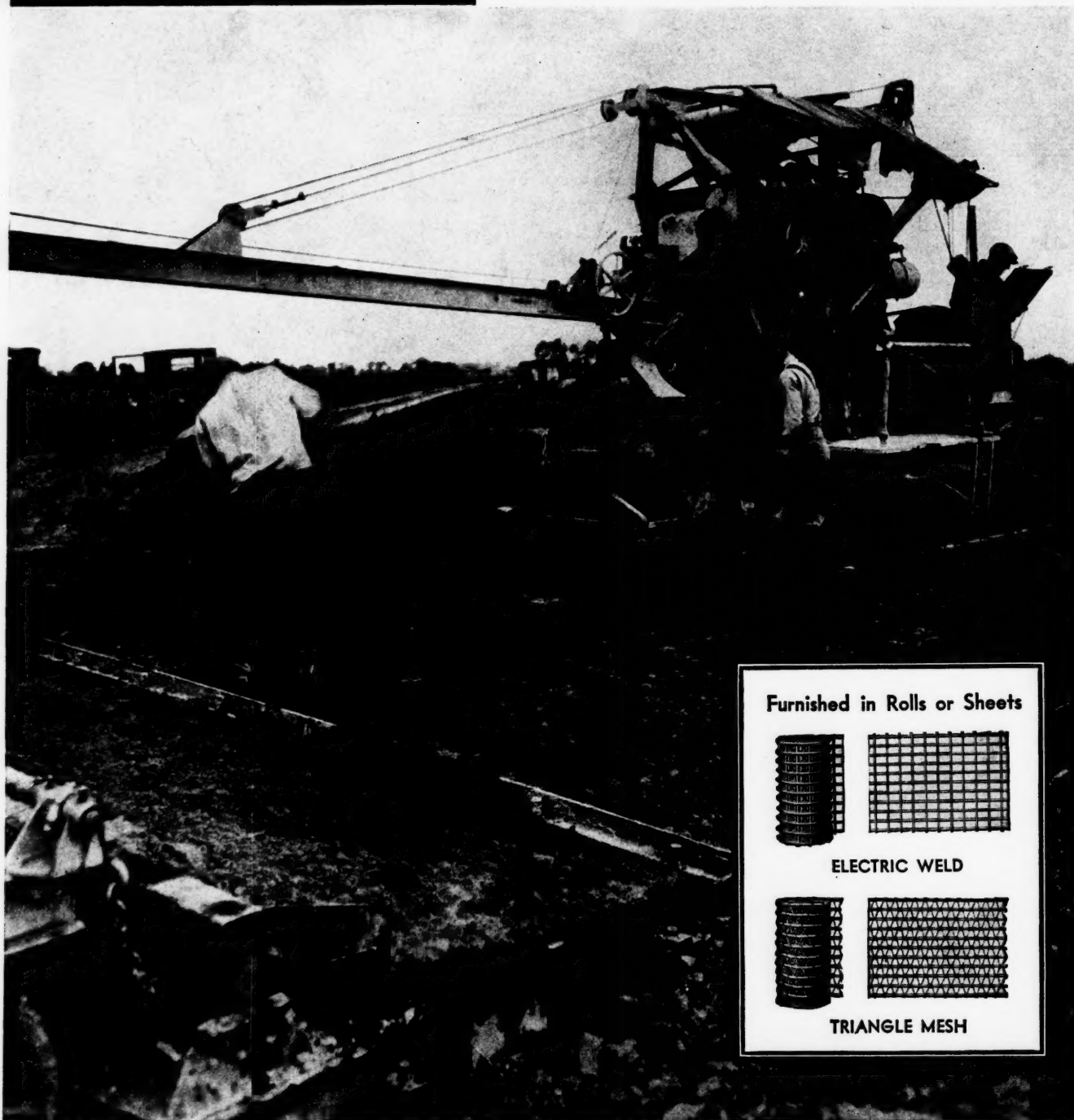
AMERICAN STEEL & WIRE COMPANY

WIRE FABRIC

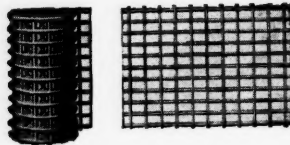
Building Good Roads and Streets Better

Highway departments have solved the problem of "better" good roads and streets by standardizing on wire fabric reinforcement. The life of the pavement is increased and the problem of costly and disfiguring tar kettle maintenance is eliminated.

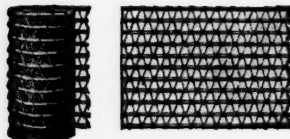
For reasons why—write for a copy of "Reinforced Roads & Streets" and "Reasons".



Furnished in Rolls or Sheets



ELECTRIC WELD



TRIANGLE MESH

1831



1931

AMERICAN STEEL & WIRE COMPANY

208 South La Salle Street, Chicago
Pacific Coast Distributors: Columbia Steel Company, Russ Building, San Francisco

SUBSIDIARY OF UNITED



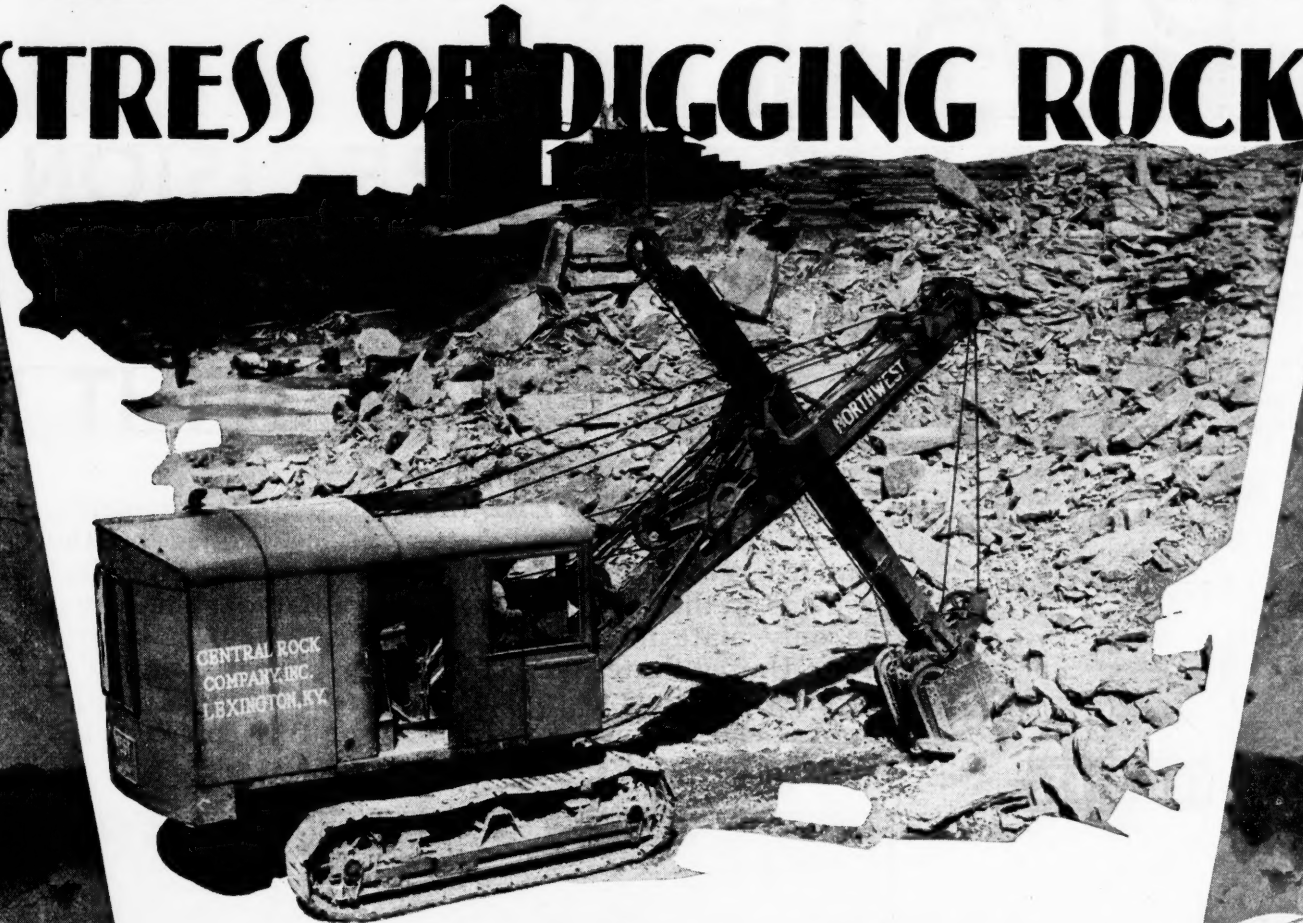
STATES STEEL CORPORATION

And All Principal Cities

Export Distributors: United States Steel Products Company, New York

Entered as second-class matter at the Postoffice, Baltimore, Md., under the act of March 3, 1879.

BUILT TO STAND THE STRESS OF DIGGING ROCK



—the Close Quarter Independent Crowd

—a crowd that makes handling tough digging easy, giving 25% more digging force at the dipper lip.

—a simple design placed low—all high speed shafts on anti-friction bearings mounted in heavy steel castings not to be compared with weaving A-frames—no chains, excess gears, shafts or clutches.

—a slow speed engine with a high torque that stands the strains imposed by rock.

—engine and operating mechanism all mounted on a single steel casting.

Compare this with other shovels.

NORTHWEST ENGINEERING CO.

The world's largest exclusive builders of gasoline, oil burning and electric powered shovels, cranes and draglines
1733 Steger Building 28 East Jackson Boulevard
Chicago, Ill., U. S. A.

Representatives

Atlanta, Ga.
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Dallas, Texas
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New Orleans, La.
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Baltimore, Md.
15 W. Franklin St.

MR. J. S. GRAY

THIS
IS
PAGE
3



NORTHWEST

PLATE OF GREATER PRECISION WHEN YOU WANT IT!

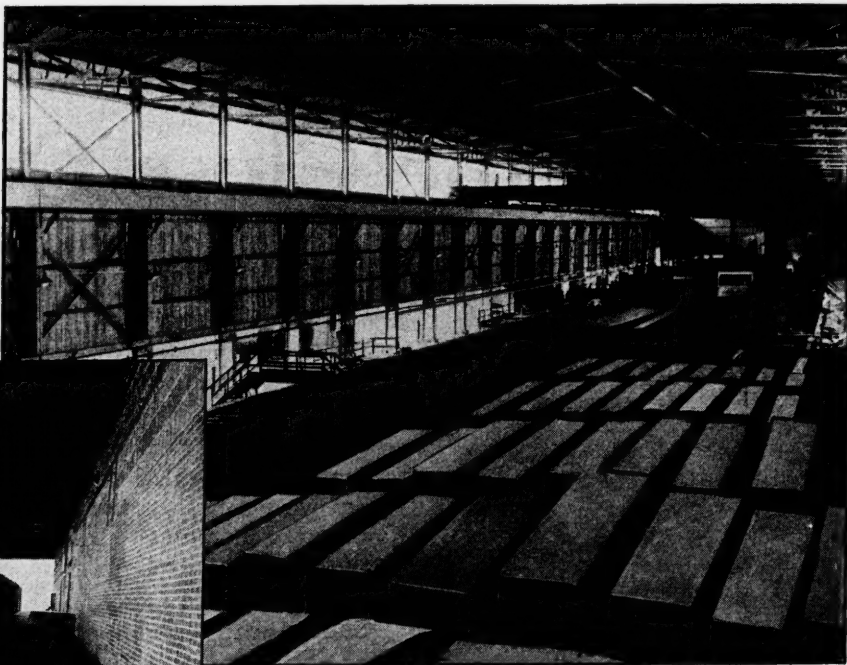
Save with Steel



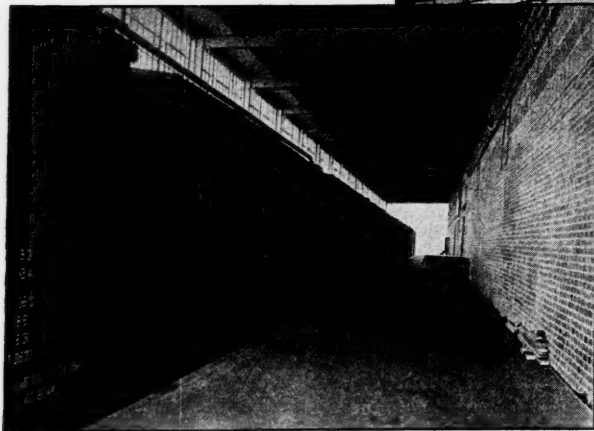
REG. U. S. PAT. OFF.

Two miles of loading platform, four miles of private track, assure quick deliveries to GULFSTEEL customers

WHEN GULFSTEEL fills your plate requirements, you get *better plate* and *better service*. Rolled by the South's largest independent manufacturer of finished steel products, in the only Universal plate mill in the South, and the only plate mill with automatic screw-down control in the United States, you are assured greater accuracy of thickness. Send us your inquiries. The mechanical, metallurgical and engineering resources of this company are yours to command.



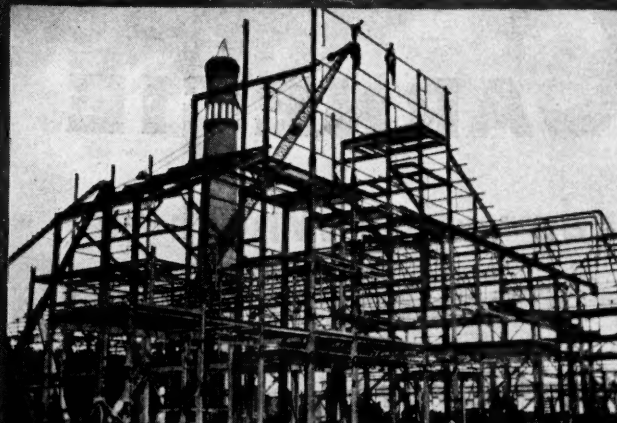
View in GULFSTEEL Plate Mill at Alabama City, showing stocks of sheared and universal plate for processing and shipment



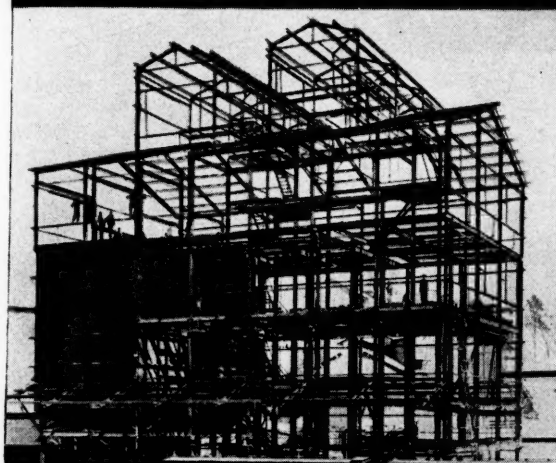
GULF STATES STEEL COMPANY
BIRMINGHAM, ALABAMA

GULFSTEEL PRECISION PLATES

Sugar Factory, Brazil
The Dyer Co., Cleveland, O.
Engineers and Builders



Attapulugus Clay Co. Plant
Attapulugus, Ga.

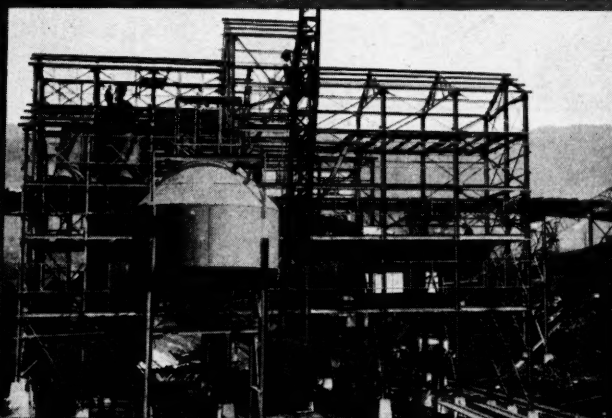


STEELING PRODUCTION

The Competent Steel Builder can give you all the advantages of steel, known dependable strength and economy of space, plus a carefully co-ordinated fabrication and erection schedule best suited to your construction program.

(On this page four of our recent jobs)

Coal Preparation Plant and
Tipple, United Pocahontas
Coal Co., Crumpler, W. Va.



Chicago Bridge & Iron Co. Plant
Birmingham, Ala.



VIRGINIA BRIDGE & IRON CO.

ROANOKE BIRMINGHAM MEMPHIS ATLANTA

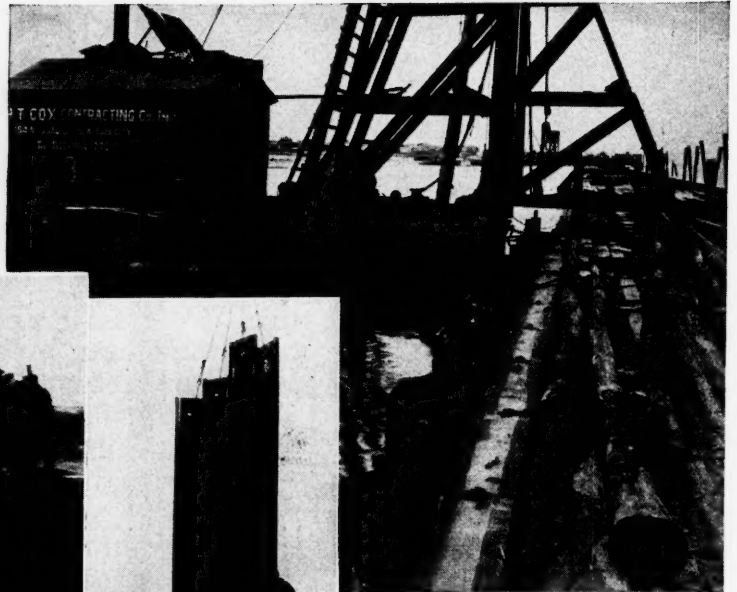
NEW YORK NEW ORLEANS LOS ANGELES

CHARLOTTE DALLAS EL PASO

VIRGINIA BRIDGE

CARNEGIE PILING...

in deep-water Wharf
Construction
at Gravesend Bay



AN excellent example of a wharf and bulkhead, combining Carnegie Steel Sheet Piling and C B Sections in its construction, is illustrated above. This type of construction is economical, rugged and durable and can be applied to any depth of channel and any surcharge load by varying the weight of the C B Sections and the spacing of the master piles. Mr. M. Lenke, Chief Division Engineer,



Bureau of Wharves, New York City, is responsible for the design. The P. T. Cox Contracting Company were the general contractors.

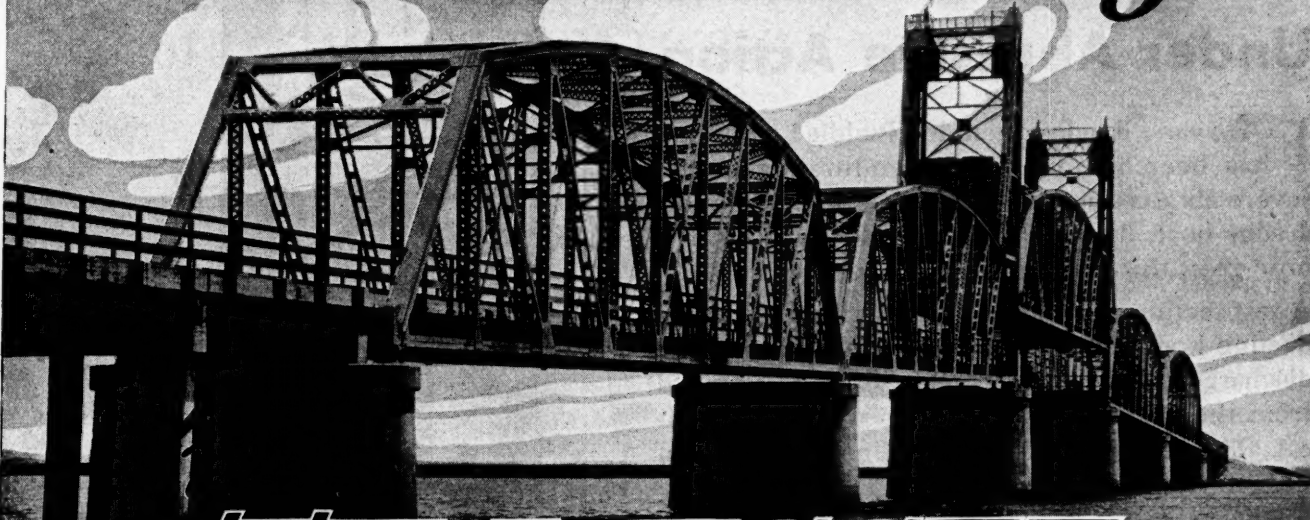
Carnegie Steel Sheet Piling is rolled in an efficient range of weights and sizes. Suggestions, including design if desired, will be furnished for your problems . . .

CARNEGIE STEEL COMPANY, Pittsburgh, Pa.,
Subsidiary of United States Steel Corporation

131

CARNEGIE STEEL SHEET PILING

'Cross Mobile Bay



TENNESSEE Structural Steel

*Construction of the Cochrane Bridge across Mobile Bay
by the Bridge and Iron Company, Baltimore*



Approaching the City of Mobile from the East and constituting an important link in the Old Spanish Trail between Jacksonville and New Orleans, the several separate structures comprising the Cochrane Bridge cast their imposing spans across Mobile Bay and the adjacent low lands. Permanence, strength and rugged beauty have been built into these bridges through the use of Tennessee Structural Steel.



TENNESSEE COAL, IRON & RAILROAD COMPANY

General Offices: Brown-Marx Building, Birmingham, Ala.

Subsidiary of United States Steel Corporation

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AMERICAN SHEET AND TIN PLATE COMPANY
AMERICAN STEEL AND WIRE COMPANY
CARNEGIE STEEL COMPANY

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UNIVERSAL ATLAS CEMENT COMPANY

Pacific Coast Distributors—Columbia Steel Company, Russ Building, San Francisco, Calif.

Export Distributors—United States Steel Products Company, 30 Church Street, New York, N. Y.

65%

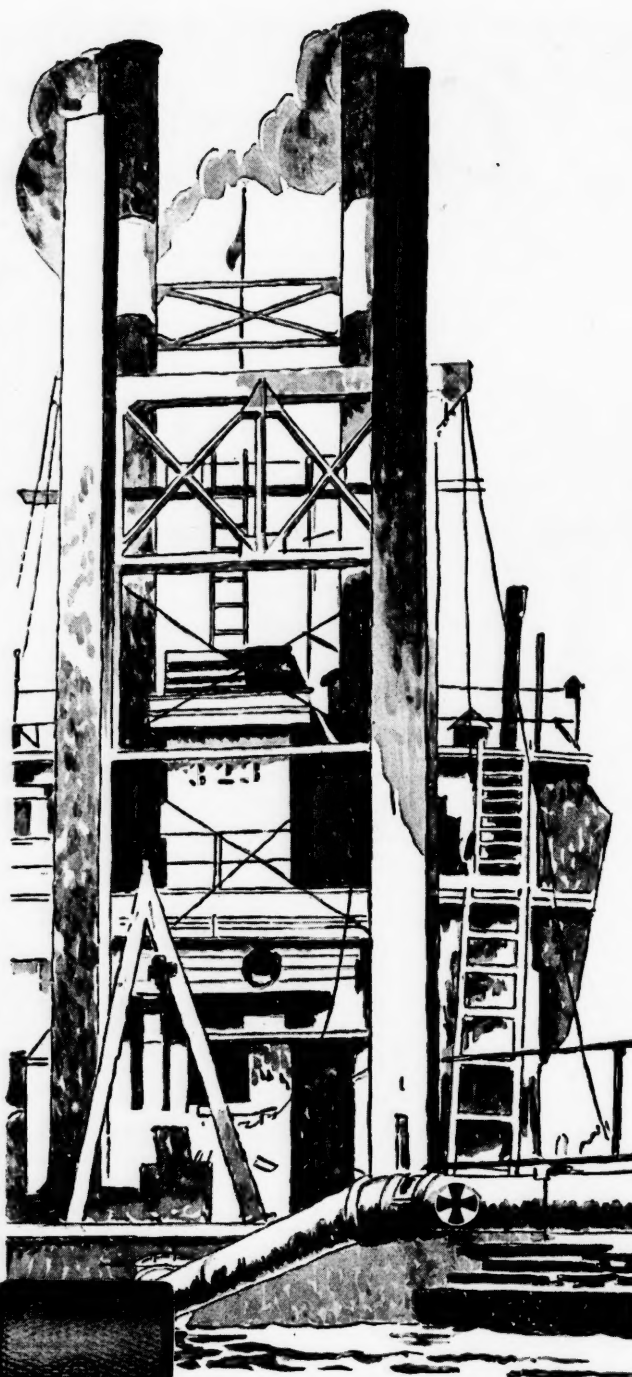
GREATER Endurance Under Abrasive Action

FOR years, Reading genuine Puddled Iron Pipe has been famous for its endurance under severe abrasive action. But it took a U. S. suction dredge boat, down on the Ohio River, to prove how great this endurance really is!

A test section of Reading Pipe was installed in the dredge boat's discharge line at a point where discharged sand and gravel was *shot upward* from the boat, and where wear would be hardest. The rest of the discharge line was made of ordinary pipe.

At the beginning of the dredging season, both the Reading Pipe and the ordinary pipe were new, and had exactly the same wall thickness. At the end of the season . . . after 714,000 cubic yards of sand and gravel had been pumped through the line . . . engineers found that the ordinary pipe had lost .162 inches of its original wall thickness, while the Reading Pipe had lost only .098 inches. Expressed in percentages, this represents 65% greater endurance for the Reading Pipe in spite of the harder service!

Reading genuine Puddled Iron Pipe . . . puddle-proofed against corrosion, abrasion and fatigue . . . is permanently identified by the *indented Reading Spiral*. Look for this mark . . . it is your best protection from substitutes.



Section of Reading Pipe

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Reading, Pennsylvania

Atlanta, Baltimore, Boston, Buffalo, Pittsburgh, Cincinnati,
New York, Detroit, Houston, St. Louis, San Francisco, Seattle,
Chicago, Philadelphia, Tulsa, Los Angeles, Kansas City

READING PRODUCTS

Pipe	Tubing	Casing	Nipples	Couplings
Bar Iron	Blooms	Cut Nails	Boiler Tubes	

You must get Reading genuine Puddled Iron Nipples with Reading Pipe—the best combination for soil, waste, vent and inside conductor lines.

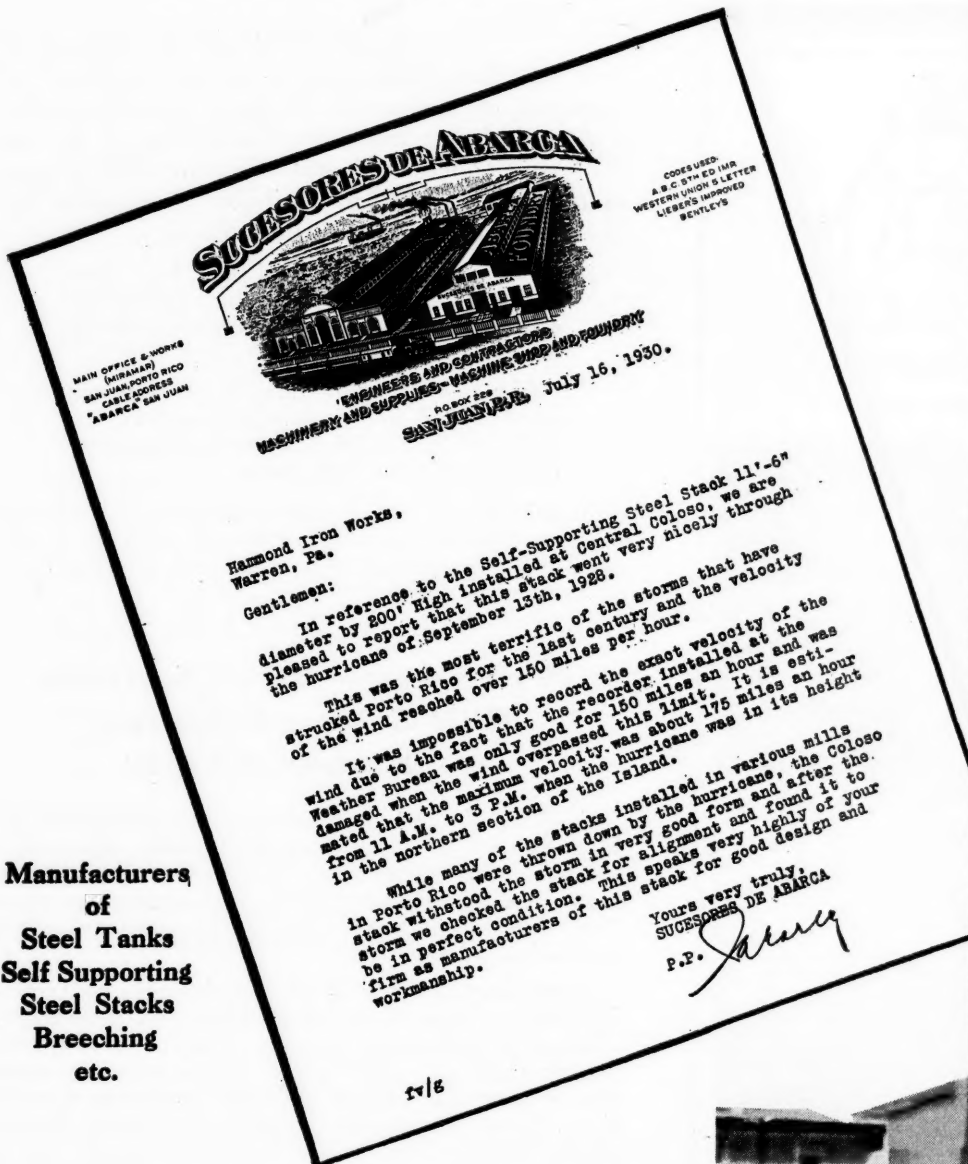
READING PUDDLED IRON PIPE

Science and Invention Have Never Found a Satisfactory Substitute for Genuine Puddled Iron

HAMMOND

STEEL STACK DESIGN

*Withstands Wind Pressure
of 175 MILES PER HOUR*

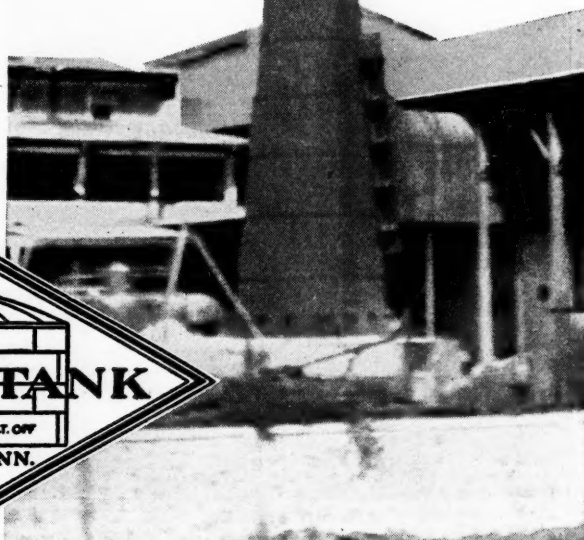


**Self Supporting
Steel Stack
11 ft. 6 in. Dia.,
200 ft. High
Erected at
Central Coloso,
Porto Rico.**

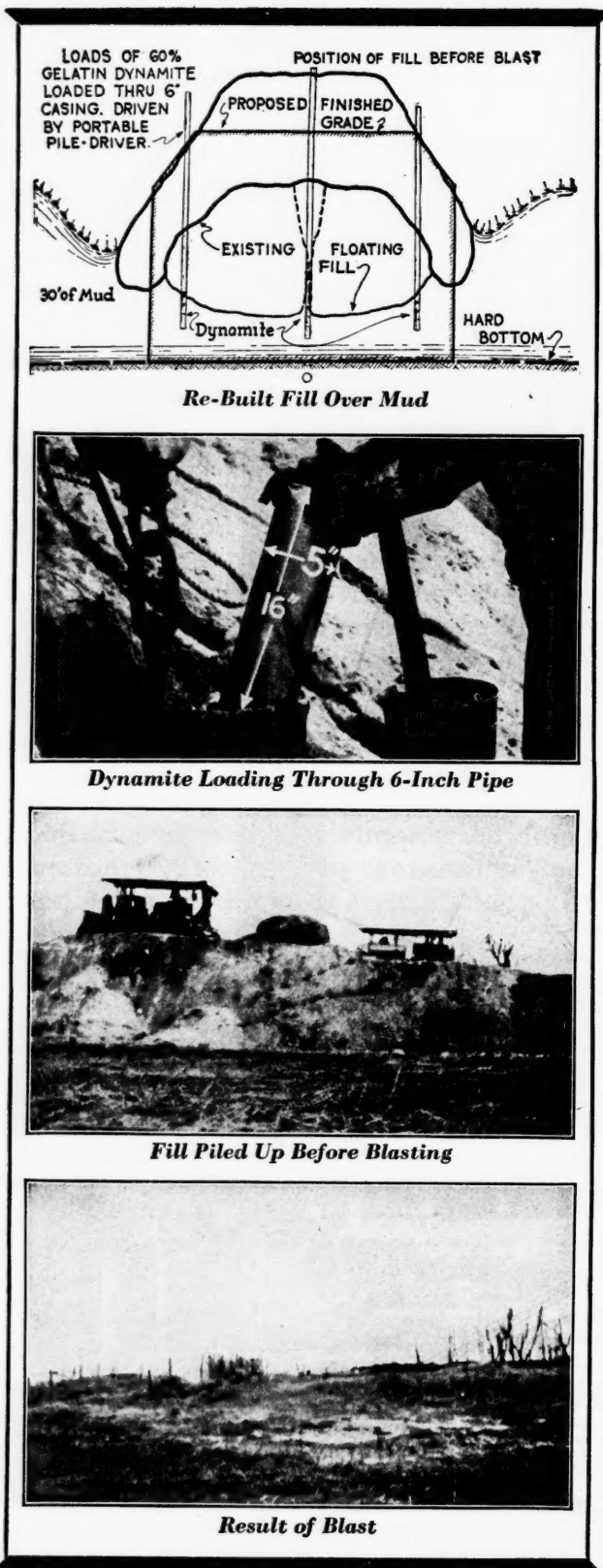
**Manufacturers
of
Steel Tanks
Self Supporting
Steel Stacks
Breeching
etc.**

**HAMMOND IRON WORKS
WARREN,
PENNA.**

**New York Office:
17 Battery Place
Tel.: Whitehall 0060.**



DYNAMITE—



SIGNIFICANT evidence of the attention being given to the methods of applying explosives to displace unstable material underlying highway fills is found in the following conclusions stated in the 1930 *Report of the American Road Builders' Association* by the *Committee on Grading Methods*:

"Swamps, marshes and peat bogs represent the most treacherous areas over which modern highway embankments are constructed."

"The use of explosives is particularly successful in displacing underlying unstable material and compacting embankments in such areas."

Modern traffic requirements demand the shortest distance between terminals, efficient planning of the roadway, permanent construction and *minimum cost of maintenance*.

Permanence of Fill Sections Will Reduce Highway Maintenance Costs

Solid foundations are as essential for permanence of highways as they are for the modern skyscraper, bridges and other structures. Why expect a highway to remain in its original condition when founded upon "unstable material" as the Grading Committee classifies such a "foundation?"

There are thousands of miles of highways now crossing swamps and other treacherous soil formations. Millions of dollars are spent to restore to grade these sunken highways. Permanence of the highway grade can be assured by placing fills upon permanent foundations. "Unstable material" below the fill or upon the site of new highways can be

Displaced Quickly, Cheaply and Simply by the Use of Explosives

The employment of explosives provides an ample force to dislodge the mud, peat or other material; requires no extensive machinery to purchase, operate and supervise, and the methods of using dynamite are sufficiently variable to be applicable in any locality. Here are the ways some fill settlement projects have been handled:



Is Now Successfully and Economically Used to Displace Soft Material BELOW Highway Fills

- 1** The surface of the selected site is covered with turf and tree roots, which are torn apart, and the earth loosened and liquefied, by exploding charges of 50 per cent du Pont Ditching Dynamite at definite locations, and using the propagation method of firing the explosive charges. An even settlement by gravity results and none of the fill has been wasted.
- 2** Where a hard-surfaced highway is constructed over an old road-bed, the fill material is placed where required. Charges of 60 per cent du Pont Gelatin Dynamite are located in the muck by the use of pipe casings as shown in the diagram and illustrations at the left. Following the explosion, the mud is replaced by the fill material settling to a firm foundation.
- 3** If a new alignment of the road-bed is required, 50-pound cases of 60 per cent du Pont Gelatin Dynamite are placed upon the surface at designated points. The fill material is placed on top of the charges as shown in the diagram and illustrations at the right. Settlement of fill material follows the explosion, and a permanent base is obtained.

The Saving of Time, Labor and Money Commends the Explosives Plan

Here is a practical, efficient and economic plan to reduce maintenance costs of highways now in service, and to ensure the permanence of future road-beds. The methods mentioned have proved efficient, and are being employed successfully in many localities.

Our explosives engineers are observing and reporting on fill settlement projects in many sections of the country. Their findings are available to engineers, contractors and officials engaged in constructing and maintaining highways. Your inquiries and problems are invited in the interest of better highways, lower maintenance costs and public satisfaction.

E. I. du Pont de Nemours & Co.

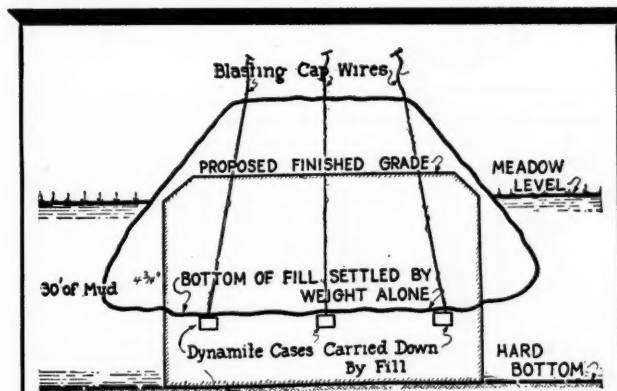
Incorporated

Explosives Dept.

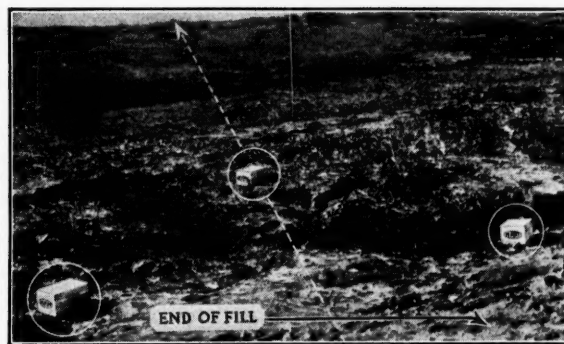
Wilmington, Delaware



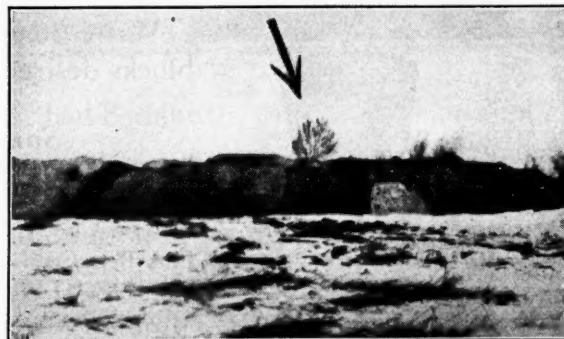
REG. U. S. PAT. OFF.



Dynamite Pushed Down by Weight of Fill



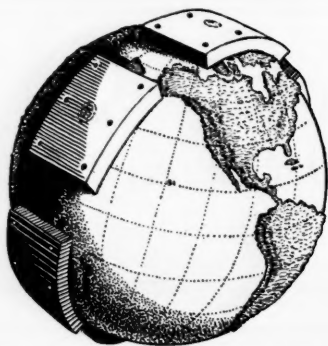
Dynamite Cases Placed on Three-Point Loading



Three-Point Fill Ready for Blast

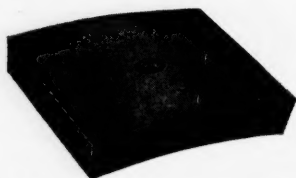


Result of Blast

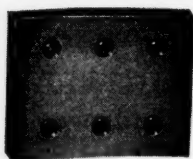


"Palmer Brake Blocks Could Stop the Earth"

Braking is sure and *speedy* with Palmer Molded Brake Blocks



Palmer Molded Brake Blocks are accurately formed by steel molds under tremendous hydraulic pressure.



All holes are very accurately molded, not drilled. This prevents cutting the grain and weakening the block.



Palmer Molded Brake Blocks are made in any size or shape for any make or model of equipment. They last twice as long as ordinary wood or composition blocks.



Palmer Hydraulic Brake Lining has been proved by the hardest kind of service to be superior to all others in long life, braking efficiency and economy.

POSITIVE, safe and long-lived, Palmer Blocks give the sureness and speed in braking that operators want for fast and steady work. These blocks are made of high-grade asbestos by the exclusive PALMER method and are formed with a special binding compound under tremendous hydraulic pressure. They provide maximum friction in use because they contain the maximum amount of the best braking material known. They are compact, uniform in structure, non-charring, and impervious to oil, water and grit.

The next time you have to put brake blocks on steam shovels, dredges, hoists or cranes, be sure to specify Palmer. Remember that it costs at least half as much for the labor required to renew brake blocks as it costs for the blocks themselves. Palmer Blocks wear more than twice as long as ordinary composition blocks and pay for themselves in renewal labor saving alone.

Write for detailed information or send specification of blocks desired, for prices.

Some Users of Palmer Brake Products

International Harvester Co.
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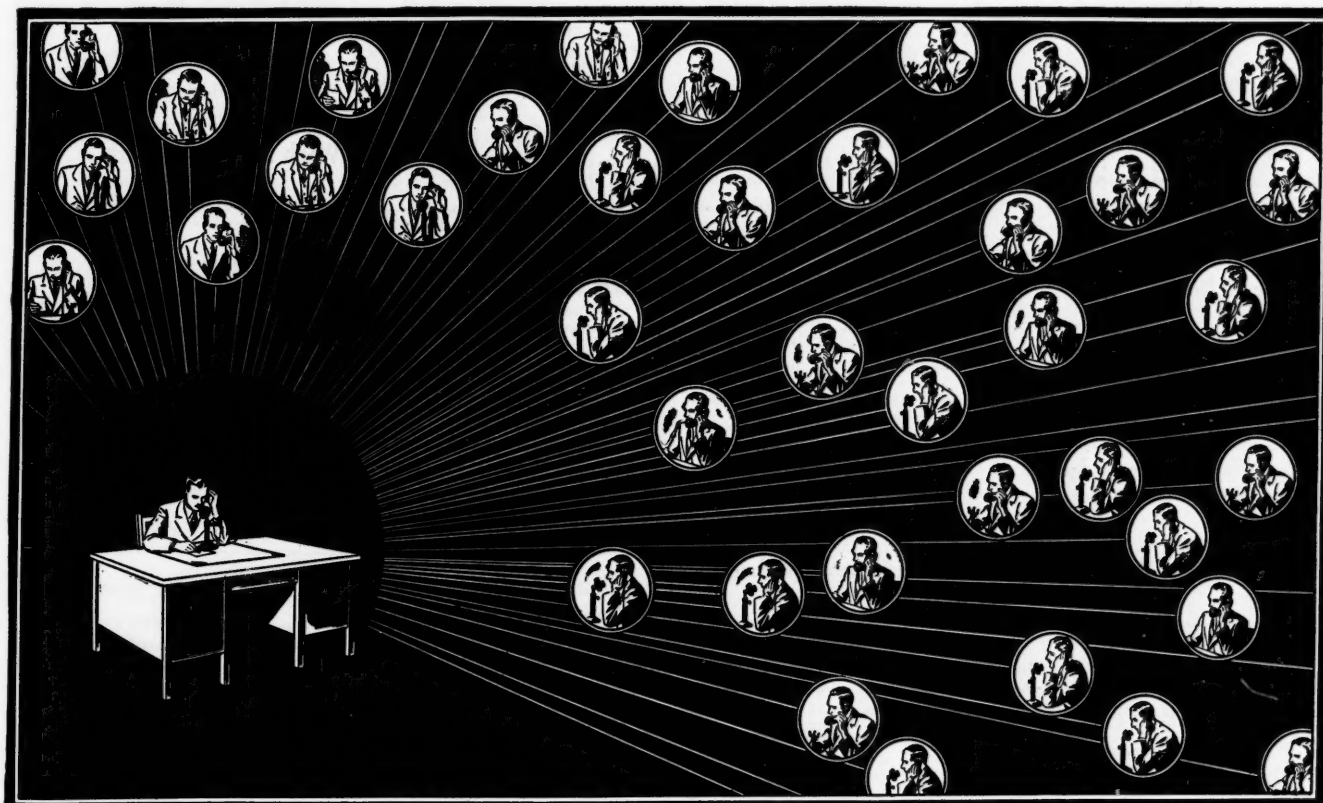
THE LARGEST MANUFACTURERS USE PALMER BLOCKS & LINING

★

★

OUT-OF-TOWN SALES INCREASED

Selling cost decreased . . . through
this Telephone Merchandising Plan



THE TELEPHONE is helpful at all times in transacting inter-city business, but it is especially valuable when a definite plan is followed.

An automobile distributing firm adopted a Long Distance merchandising plan presented by the local Bell Company. This plan included direct selling to dealers in three states by telephone; the use of Long Distance advertising material to cover 2000 potential parts customers; and the training of the firm's personnel on telephone sales work.

The general manager writes: "We have been very successful in increasing our sales volume materially since the start of the plan; and our selling cost has decreased beyond our fondest hopes."

A machinery company on the west

coast had bought the output of a bankrupt concern. A telephone representative suggested a Sequence Calling Plan to dispose of the equipment. In three days, 256 customers in four states were solicited by telephone, and \$6000 worth of machinery was sold at a sales cost of about 1%.

Your local Bell Company has trained men who will gladly help you devise a telephone merchandising plan to fit your particular needs. Long Distance charges are surprisingly low: St. Louis to Indianapolis, \$1.10. San Francisco to Philadelphia, \$8.75. Cleveland to Pittsburgh, 70 cents. These are station-to-station day rates; evening and night rates are still lower. Develop your inter-city business by telephone . . . *quick . . . inexpensive . . . most effective.*



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Established 1893

Builders of Railroad and

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Industrial Wastes, Power Plants,
Design, Construction, Operation, Labora-
tory Service, Valuations and Reports.
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T. C. Thompson and Bros.

Incorporated 1895

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CHARLOTTE, N. C.

Algernon Blair

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General Contractors

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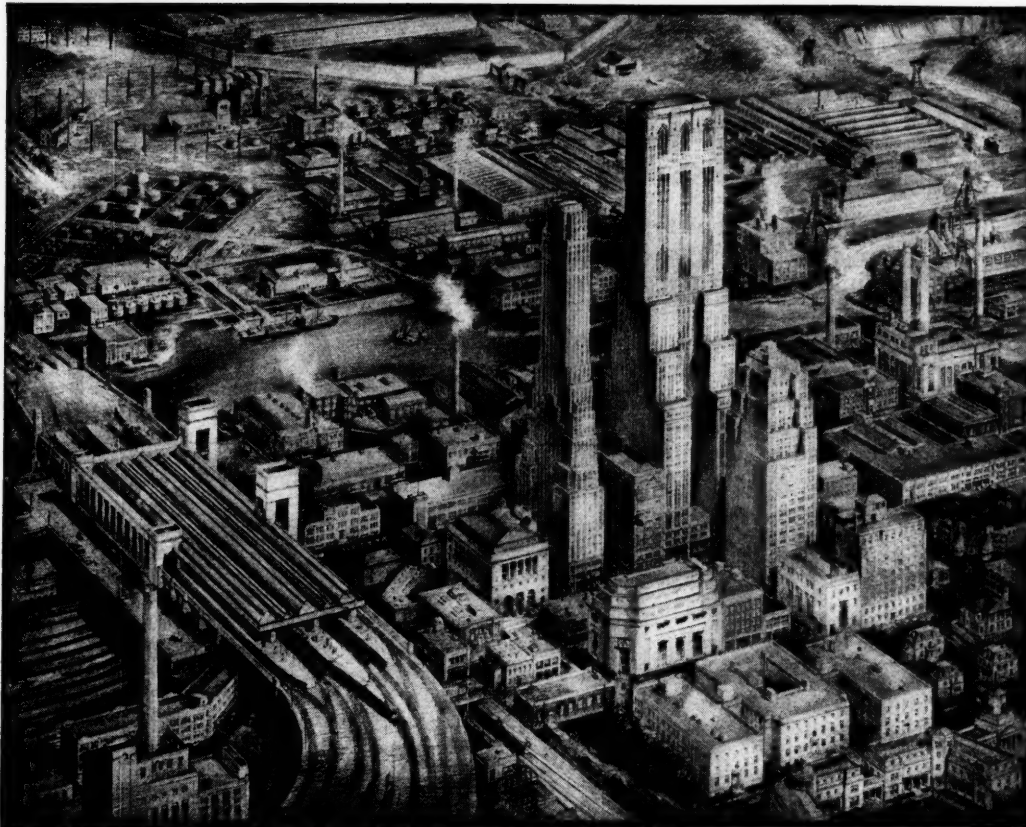


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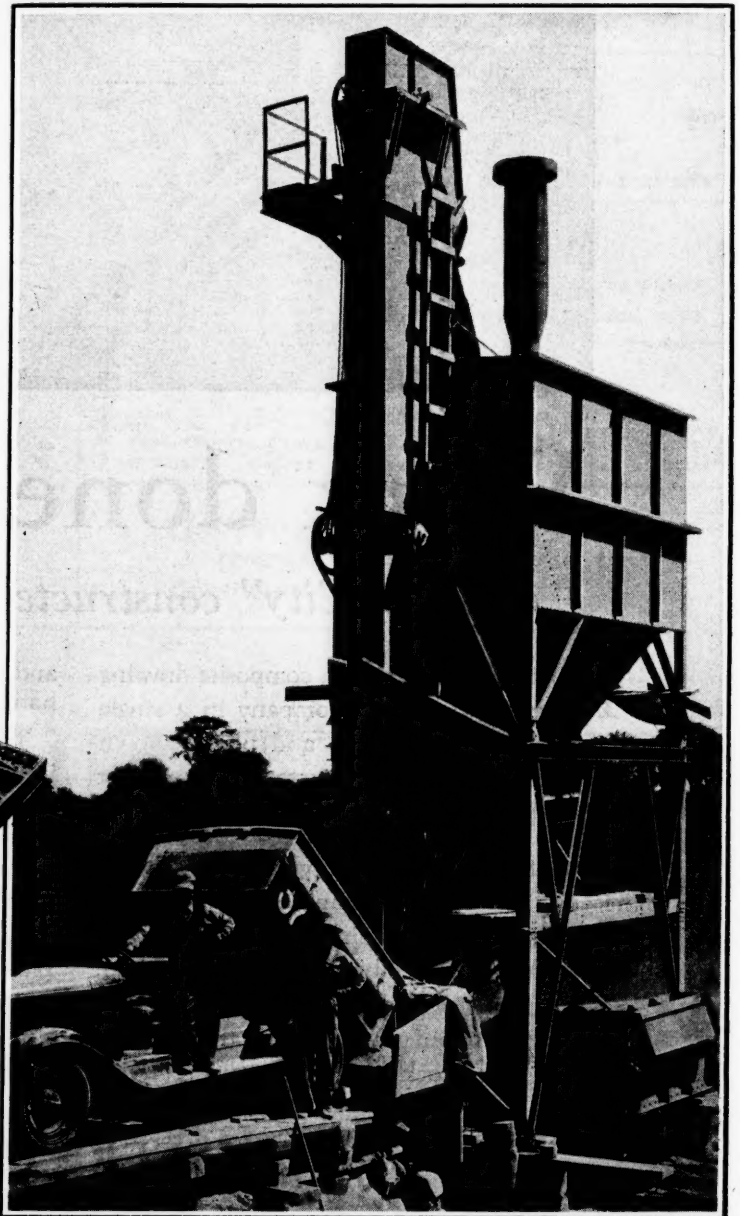
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Baltimore, Md., April 23, 1931

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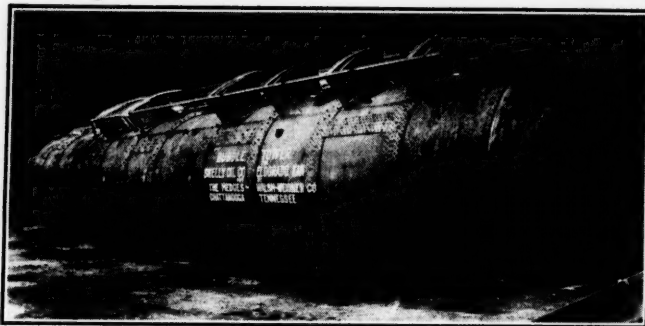


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Vol. XCIX No. 17 }
Weekly }

BALTIMORE, APRIL 23, 1931

{ Single Copies, 20 Cents.
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Bituminous Coal Consumption

A TIMELY analysis of the consumption of bituminous coal by various groups of industries has been made by the Bureau of Mines. It is of special interest today when the question of coal competition with gas, fuel oil and water power is being so widely discussed. The accompanying table showing the consumption of bituminous coal by industrial uses in a typical year of business activity is compiled from available data covering various years. In the main the figures are for 1929, the last year for which general business was conspicuously active, and they show a total consumption in excess of 500,000,000 tons. In the field of manufacturing, figures are available only for 1927, a year of moderate industrial activity. Thus the results, although not agreeing exactly with the total consumption in any single year, are believed by the Bureau of Mines to be typical of conditions when general business is considered prosperous.

The largest single item as indicated in the compilation is the fuel consumption of steam railroads, which amounted to 131,000,000 tons in 1929, representing 26 per cent of the total estimated consumption. The next largest consuming group, as classified under "Domestic and All Other Large Users," includes the heating of large buildings other than factories: Hotels, apartments, stores, offices, theatres, garages and service stations; also, a number of other items that cannot be separated, such as waterworks, construction industry, public institutions, central heating plants, laundries and small industrial consumers not covered by the Census of Manufactures. The consumers in this group used an aggregate of 102,000,000 tons, or 20.4 per cent of all the bituminous coal consumed in one year. General manufacturing, other than steel, coke and gas-making, consumed 92,000,000 tons, or 18.4 per cent, followed closely by the coke-making industry, which used 86,780,000 tons, or 17 per cent of the total.

The coal consumption of 1929 was of course greater than the quantity used in a normal business year, but the figures presented show the trend of bituminous consumption in industry and business. In this con-

Consumption of Bituminous Coal by Uses

Item	Year	Net tons consumed	Per cent of total
Railroad fuel (all steam roads)*..	1929		
Locomotive fuel		118,600,000	23.7
All other (shops, stations, etc.)..		12,500,000	2.5
Total		131,100,000	26.2
Electric utilities	1929	42,785,000	8.6
Coke ovens	1929		
By-product		76,759,000	15.4
Beehive		10,028,000	2.0
Total		86,787,000	17.4
Steel works†	1927		
Gas coal		8,300,000	1.6
Steam coal		14,309,000	2.9
Total		22,609,000	4.5
General manufacturing**	1927		
Stone, clay and glass products...		24,155,000	4.8
Metals and metal products other than steel††		14,155,000	3.0
Food products (not including ice)		11,239,000	2.2
Chemicals and fertilizers.....		9,803,000	2.0
Paper, pulp and printing.....		9,515,000	1.9
Textiles and their products.....		7,865,000	1.6
Petroleum refining		3,632,000	0.7
Leather and rubber products....		3,777,000	0.8
Lumber and wood products.....		3,140,000	0.6
Miscellaneous manufacturing industries		2,506,000	0.5
Ice		1,604,000	0.3
Total		92,050,000	18.4
Coal gas and water gas plants‡....	1927	6,252,000	1.3
Coal mine fuel.....	1929	4,662,000	0.9
Mines and quarries other than coal	1919	4,190,000	0.8
Bunker	1929		
Foreign		4,287,000	0.8
Domestic (incomplete)		3,407,000	0.7
Total		7,694,000	1.5
Domestic and all other large users		102,000,000	20.4
Grand Total		500,129,000	100.0

*Based on records of I. C. C. covering Class I roads. Includes allowance for Class II, III, switching and terminal companies. †Total for iron blast furnaces, steel works and rolling mills, as reported by Census of Manufactures and quarterly stock reports of Bureau of Mines. **Other than steel, coke, gas and railroad shops. ‡From Census of Manufactures. ††Includes motor vehicles. ‡Bituminous coal used for gas making and boiler fuel, not including that charged in by-product ovens operated by city gas companies.

nection, however, it is of interest to note that shipments of bituminous coal to the Great Lakes ports for loading into vessels as cargo in 1929 totaled 37,771,000 tons, while during the depression of 1930 similar shipments aggregated 36,399,000 tons, a decrease of only 1,372,000 tons. The 1930 lake cargo coal shipments were 3,000,000 tons greater than in 1928 and 1927, and 8,200,000 tons more than in 1926, while the 1930 shipments were nearly double the shipments of 1922. As Southern coal producers supplied 70 per cent of this lake cargo coal in 1929 and 67 per cent in 1930, consumers in the North and West should be interested in any attempt made by Northern coal operators to increase the freight rate differential from Southern coal fields to the Lakes. Northern producers now have a freight rate differential in their favor of 35 cents a ton. Southern coal producers are likewise vitally interested in protecting their outlets, through lake ports, of coal destined for Northern consumption and in the further development of such markets.

As the South furnishes 46 per cent of the bituminous coal mined in the United States, this section is directly concerned in the prosperity of the coal industry.

"Necessity Compels It"

THE attitude of the South Carolina legislature in treating as "an April Fool joke" a bill to reduce the number of counties from 46 to 15 is of moment. Such treatment of such a measure is an example of the general failure of state legislatures to adopt practical means for tax economies, notwithstanding the demand from all quarters for lower taxes.

"Representative Rittenberg expected the bill to be taken as an excursion in humor, but the practice of wrapping wisdom in wit is older than the South Carolina House of Representatives or than King Solomon, and that the adoption of this Rittenberg plan would immensely cut down costs of government is the simple truth," the Charleston News and Courier comments. "Unless general assemblies and Governors of South Carolina shall regain some understanding of the relation of the counties to the state, it would be as well to pass Mr. Rittenberg's bill and save the money."

Whether 15 actually is the number to which South Carolina's 46 counties could be reduced with most practical benefit and economic effect is for the legislature to decide. Of the economic necessity for county-consolidation in a great many states, there can be no question. As the MANUFACTURERS RECORD has pointed out, the 16 Southern States embrace 1503 counties, or 48.9 per cent of the total for the 48 states, and this with 31.8 per cent of the total land area and 20.7 per cent of the voting population.

Instead of adopting obvious opportunities for the reduction of taxes, virtually every state legislature sitting so far this year has sought new sources of tax moneys. Analysis of the tax dollar in one Southern

State discloses that it is made up of 21 items, as follows: Ad valorem tax, inheritance, poll, gross receipts, occupation, franchise, fur, gasoline, licenses, charter fees, registration fees, fees of office, state university student fees, miscellaneous fees, land sales and rentals, sales of products, books and other properties; court costs and suit settlements, fines, miscellaneous revenues, county, federal and other aid, and interest. This is fairly representative of other state tax levies.

Local governments in the United States are found by the National Industrial Conference Board to be spending about \$7,000,000,000 a year, or well over 50 per cent of the total for federal, state and local governments, combined. State governments spend about \$2,000,000,000 yearly in addition. In one state, in the next 40 years, the people must pay off \$355,000,000 in bonds plus \$261,500,000 in interest, a total of \$616,500,000. One county alone in a Southern State pays more than \$28,000,000 a year, or \$76,712 a day, in taxes, more than five times the amount required to run the entire state 25 years ago. These items, picked at random from a mass of information, explain the reason for the demand for retrenchment. Such figures are staggering. They represent a condition that is ominous.

"The public, the workers and the legislators of this country should realize that large increases in federal and state taxes on industry will inevitably force industry either to increase prices all along the line, further curtail operations, or to curtail other expenses, mainly by reducing wage rates," says Noel Sargent for the National Association of Manufacturers.

Further than to say that the creation of huge public debts first developed as a general movement 10 or 12 years ago, there is no profit in going into a history of the pyramiding of the federal, state and local government burdens of principal and interest and taxes. The evil of the general situation now is indicated in one Southern State in a news dispatch to the MANUFACTURERS RECORD: "The fact that no concise official records are kept of the bonded indebtedness of the state or of its counties and districts" has caused the appointment of a legislative committee "to collect the facts showing the amounts outstanding of state bonds, county-wide road bonds and district road bonds." The committee also will ascertain whether any county is delinquent on its interest payments, and the condition of county sinking funds for bond issues.

The fiscal situation in every state, county and local governmental unit must be faced squarely and corrected.

"The burden is more than the people are reasonably able to pay, based on the present prices of commodities, the present prices and conditions of employment of labor, and the present profits from industry and business," says A. J. Maxwell, Commissioner of Revenue of North Carolina, in the United States Daily. "We cannot with safety longer postpone a thorough reconsideration of the total cost of government in its varied operations. Necessity compels it."

An outstanding opportunity for retrenchment is open through consolidation of superfluous counties.

A Profitable Wage

A CORRESPONDENT asks that we stress "the folly of the low wage which hurts everyone it touches and affects the merchant, the landlord and the physician." We believe that all agree that good wages mean happy homes, healthy and educated children and trade activity. Millions of words have been used to emphasize the fact that high wages are a mighty stone in the foundation of national prosperity. Arguments on that line in general, or in detail, are merely repetitions of countless statements to the same effect.

With the principle of the highest practicable wage in both theory and practice, the MANUFACTURERS RECORD always has been in full accord. Beyond the economic value of high wages, to the individual and the nation and for the stimulation of morale, there is a human factor—the welfare of the women and children dependent on the wage earners. The pay envelope goes into the hand of the worker simply on its way to the women and children, who are dependent on the consideration of the employer, just as much as on the work of the employe. Realization of this fact, we believe, should prove a great prop in the maintenance of America's general wage scale. But business must make a profit before it can pay any wage, low or high.

In studying the effects or the results of high wages, there has been a popular misconception that high wages beget high wages. The nation's business problems cannot be solved as easily as that. We have pointed out that only through prosperity can high wages be attained. Volume production at low unit cost of operation tends to make a profitable industry, and labor benefits accordingly. High wages cannot be paid by industry which is not making a profit. Therefore high wages may at times, under some circumstances, actually undermine prosperity and destroy the wage source, making it impossible even to pay a low wage.

Such a condition today is to an extent confronting the construction industry. The building trades are the heaviest sufferers from unemployment. The high scale of wages demanded by organized building labor, in the face of decreased work performed, is contrary to sound economics. In the manufacturing field we experienced prosperity and high wages through greater production per unit of labor cost. In the construction field, high wages were not the result of increased output, except where machinery entered the picture, which at once transforms the work into a factory operation. In laying bricks, for instance, the mason is getting a much higher daily wage and he has been performing a much smaller amount of work in return. Building labor costs, based on the union scale, remaining out of proportion with the general decline in prices of materials, and lower salaries and wages generally, because of re-

duced rates or part-time work, have retarded construction throughout the country which in turn has affected every other industry and trade.

What is the result? Instead of work being available at a profitable wage in the building industry, we have seen high union wages, artificially maintained, actually reducing the opportunity to get work of any kind. Only in recent months has building labor come to realize the impossibility of forcing on the public the high union-wage scale of boom days. Wage concessions which have been made in one form or another are beginning to have a stimulating effect, for construction activity is more pronounced than for some time.

Too high wages may be damaging to the employe, as too low wages may be harmful to the employer. The effect of either extreme is to restrict trade and reduce opportunity for employment, the one making it too costly to produce competitive goods and the other curtailing the buying power of wage earners. There is a happy medium—a profitable wage—profitable for labor and profitable for capital.

Genuine Public Ownership

DIVIDEND disbursements of \$500,000,000 on April 1 and prospective payments of \$250,000,000 more in this month indicate that the United States still is doing an enormous amount of business. More than 2000 stock issues contribute to this total, with interest also on Liberty bonds and other Federal Government securities.

Annual dividends and interest disbursements in the United States range around \$6,750,000,000, to which industrial and miscellaneous securities contribute more than \$2,000,000,000, steam roads nearly \$500,000,000 and street railways \$130,000,000.

Largely dependent on this aggregate income are millions of the American people, either as actual owners or as beneficiaries from estates and trusts in the hands of life insurance companies and other financial institutions. In many corporations, such as the Standard Oil companies, the American Telephone & Telegraph Company, the United States Steel Corporation and others, the employes, men and women, form a large and ever-growing percentage of the stock ownership.

Assertions by radicals or politicians or demagogues that American industry is owned by a favored few, for whose enrichment the public is exploited, can be controverted by the ownership records. The major ownership is vested in the people at large, directly or indirectly.

The theory of public ownership is being translated into practice without governmental intrusion of any kind. The theory of government ownership or operation of private business of any nature is inimical to the interests of the people as owners of the enterprises which the radicals and politicians would have the Government take over.

Railroad Consolidation

FOLLOWING the World War, an almost universal sentiment in favor of railroad consolidation developed in the United States. At that time, railroad service, facilities and credit were impaired, due to conditions incident to and growing out of the war. Many weak lines and branch lines were thought to be facing complete abandonment. Permanent ownership and operation by the Federal Government was seriously urged in some quarters. Students of economics looked upon consolidation as one of the most effective remedies for that situation. It was also thought that the trend of railroad development and expansion could be better directed for the good of the country as a whole if the government itself interceded and forced the observance of a consistent national policy. More uniformity in the rate structure and less artificial rate-resistance against a general distribution and interchange of commodities throughout the country was expected to be another beneficial result from large-scale consolidations of railroad properties.

Although the traditional policy of the country had been against the lessening of free competition by any sort of grouping, merging or consolidating of transportation systems, Congress immediately after the war, gave serious consideration to this matter along with other problems incident to the return of the railroads to their owners. Two forms of railroad grouping were embodied in the Transportation Act of 1920, both of which were placed under control and supervision of the Interstate Commerce Commission. The first form, technically known as unification, may be accomplished in either of two ways—by the purchase of stock or lease in the name of a common holding company, or, more directly, by the purchase of stock or lease of one carrier by another. The identity of each corporation is preserved by this method of grouping. The second form is what is technically known as consolidation. It necessitates the creation of new corporations for the purpose of taking over and absorbing the constituent companies that are to be grouped.

Congress directed the Interstate Commerce Commission to adopt a complete plan for the consolidation of all the railway properties of the continental United States into a limited number of systems. The Commission was required, as far as

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possible, to preserve competition, to maintain existing routes and channels of trade and to equalize the costs of transportation as between competitive systems. The number of systems was not specified in the law. The only definite requirement in this respect was that the number should be limited. The Commission itself doubted the wisdom of a predetermined plan and for four consecutive years—1925, 1926, 1927 and 1928—requested Congress to relieve it of the duty of adopting any final plan.

Congress, however, failed to change its previous directions to the Commission and on December 9, 1929, nearly 10 years after the passage of the original law, the complete plan of consolidation was announced. Under the law this is not a rigid, irrevocable or mandatory plan. The most that can be said of it is that it furnishes a starting point on the way to national consolidation. The Commission is authorized to make changes in the plan when it deems it necessary or desirable in the public interest. In his special concurrence, Commissioner Eastman cited the tentative character of the complete plan:

"It is provided that when, after the promulgation of that plan, a consolidation is proposed, not only must it conform to the plan but we must also specifically find, after public hearing, that it will promote the public interest. This means that Congress recognized the tentative, speculative character of any consolidation plan that we might devise under the specifications of section 5 (4), and did not regard the mere making of the plan as proof that it ought to be consummated. Further evidence of this fact is afforded by the blanket authority to make subsequent modifications. Public interest in the last analysis is to be the test, and this being so, it seems to me that in exercising our discretion in the

preparation of the plan, and particularly in deciding how many systems shall be included within the 'limited number,' we should be guided by our conception of what the public interest demands. That should in turn, I believe, lead us to pursue at the outset a cautious, conservative policy."

The final plan adopted and promulgated by the Commission provides for 21 railroad systems in the continental United States. Five of these proposed systems—Wabash-Seaboard, Atlantic Coast Line, Southern, Illinois Central, and Chicago, Indianapolis & Louisville—would operate in and through the Southeast, and seven—Illinois Central, Burlington, Union Pacific, Southern Pacific, Santa Fe, Missouri Pacific, and Rock Island-Frisco—in and through the Southwest.

Unification has been going on steadily since 1920, regardless of the pendency of a general plan of consolidation. Many of the lines already have been absorbed or taken over by larger systems operated in the Southeast and the Southwest. Among these are the Alabama & Vicksburg; Atlanta, Birmingham & Atlantic; Carolina, Clinchfield & Ohio; El Paso Southwestern; Georgia, Florida & Alabama; Gulf & Ship Island; Gulf Coast Lines; International Great Northern; Kansas City, Mexico & Orient; Muscle Shoals, Birmingham & Pensacola; New Orleans Great Northern; San Antonio, Uvalde & Gulf; Texas & Pacific; Vicksburg, Shreveport & Pacific. In recent months, advanced steps have been taken toward the creation of four large railroad systems in the East, which would, if finally effected, represent a radical departure from the general consolidation plan adopted by the Commission. Other departures no doubt will follow in the course of time.

There are so many angles to the question of railroad consolidation that an adequate appraisal, from the public viewpoint, of the general plan proposed by the Commission would be extremely difficult, if not impossible. If it be granted that the public is primarily interested in adequate transportation service at reasonable cost, it may be doubted that the plan proposed by the Commission will accomplish such results for all the people of the country in any greater degree or in a better way than can be accomplished otherwise.

However, there are other matters connected with consolidation in which the

public has a material interest. Billions of dollars of public money are invested in railroad securities, and the ultimate safety of those investments, as well as the assurance of a profitable return thereon, are matters of importance from the public standpoint. The welfare of railroad labor is another thing in which the public is interested, but which Congress failed to provide for. It is contended in some quarters that many of the economies of operation, if there be such, would be at the expense of railroad workers.

But the Commission, in adopting a final plan, has complied with the mandatory directions of Congress and has thus given the country some concrete evidence as to what consolidation means on paper. Many changes in the railroad map of the country are proposed. There is much less regional appearance to this new railroad map than prevails today. In the past, railroad development has been largely regional. This has resulted in regional rate-making which has presented and still presents some material barriers to a national distribution of commodities. The plan of the Commission, in many places, cuts across this traditional policy of railroad development. While this plan might not, if carried out in toto, bring about an abrupt change in the rate-making methods and practices of the past, that would probably be an ultimate effect of it.

Another obvious feature of the proposed plan is the allotment or assignment of short and weak lines to stronger ones. While there is ample room here for argument and disagreement, the Commission's plan would undoubtedly help the short and weak lines situation.

There is a possibility that Congress will change the law relative to consolidations. By Senate Resolution No. 290 of the recent Congress, the Senate authorized and directed a subcommittee to make a re-examination of the question of railroad consolidation and to report the results thereof to the Senate. William C. Green was selected as special counsel to the subcommittee. After a thorough examination of the subject Mr. Green filed a report with the Senate Committee on Interstate Commerce in which he reviewed the arguments both pro and con relative to consolidation. His conclusions, however, were adverse to any further encouragement of a comprehensive program of consolidation as contemplated by the Transportation Act of 1920. He urged that regulatory legislation should be continued or enacted giving the Interstate Commerce Commission full control of permissible unification.

Although consolidation is not a remedy for all existing transportation problems, and would not, if accomplished, guaran-

tee the continuance of railroad transportation against encroachments of other forms and means of transportation, yet some beneficial results, not only to the railroads themselves, but also to the public, could be obtained from a well-conceived and well-directed policy of consolidation. It offers perhaps the principal hope of short and weak lines against the forces that are gradually digging at the foundations of their earning power. Many of these lines are material factors in the development of the sections they serve and fulfill an important public demand for transportation. Adequate terminal facilities are a necessity in the larger commercial and industrial centers. The improvement of the terminal situation is one of the important beneficial results from consolidation or unification. The removal of many rate barriers against the free interchange of commodities is another probable result. General economies in operation are no doubt possible in many instances through consolidation, but this would not be a uniform result. In some cases, economies would not be possible at all by such procedure.

There has been, in recent years, a trend toward railroad consolidation all over the world, and much for the same reasons that prompted such a step in the United States. Considerable strides toward this end have been made in the last decade in Great Britain. The experience in that country may be worth something, when the results are finally known, in gauging the effect of consolidation in the United States.

In the Railways Act of 1921, the British Parliament authorized and directed the amalgamation and absorption—other terms for consolidation—of 120 different railroads in Great Britain into four systems. This was effected in a relatively short time and British railways are now functioning as four large systems. Some beneficial results in the way of economies, increased efficiency and terminal improvements seem already to have been accomplished, but the plan has not been tried sufficiently as yet to disclose its full effect.

Whether in conformity with a predetermined plan or not, railroad consolidation, unification or grouping will undoubtedly go on in this country, unless Congress should stop it, and that is hardly likely. It has been carried on since railroad building was first begun, even in the face of hostile legislation. Most of the large railroad systems now in existence are the result of consolidations, mergers and unifications. Prior to 1920, when control over these matters was first vested in the Commission at Washington, some disastrous results followed these attempts at grouping, but in many other cases they have succeeded.

The artificiality of any gigantic plan worked out and proposed in advance will naturally create misgivings. This part of the present legislation may be ultimately repealed by Congress, but with power vested in the Commission to supervise and control all plans that may come up in the future, the public interest need not suffer.

There are other important transportation problems to be dealt with in the immediate future, and the search for a remedy for these other problems may help to develop the proper policy in the matter of consolidations and unifications. Other agencies may soon be brought into the national transportation picture and co-ordination of all the different transportation agencies may be a far greater problem in the future than railroad consolidations, per se.

Contracts for \$1,000,000 Temple

Fort Worth, Tex.—General contract to erect a new \$1,000,000 Masonic Temple at Henderson street and West Lancaster avenue in this city has been awarded to Harry B. Friedman, local contractor. Monrief & Monrief were awarded contract for heating and ventilating and the Beach Plumbing Co., contract for plumbing, both of Fort Worth. Excavation and foundation work was done by William H. Southwell, Fort Worth. The building will be owned by the Masonic Temple Association and will be devoted to the use of 10 downtown Masonic organizations. It will be 165 by 125 feet, 105 feet high. W. G. Clarkson & Co., Fort Worth, are the architects.

\$1,000,000 Oil Line

Dallas, Tex.—Plans have been announced by the Simms Oil Co., Edward T. Moore, president, Dallas, for construction of a 130-mile line from the Lathrop oil pool in Gregg County to Dallas. The line, to be either of six- or eight-inch pipe, is estimated to cost \$1,000,000. The company will probably enlarge its refinery here, which has a daily capacity of 4500 barrels.

\$1,500,000 Federal Building

Norfolk, Va.—Three Norfolk firms—Benjamin F. Mitchell, Wickham C. Taylor and Rudolph, Cooke & Van Leuween—have been commissioned by the Treasury Department, Jas. A. Wetmore, Acting Supervising Architect, Washington, to prepare plans and specifications for the new Federal building to be erected here. The structure will cost about \$1,500,000.

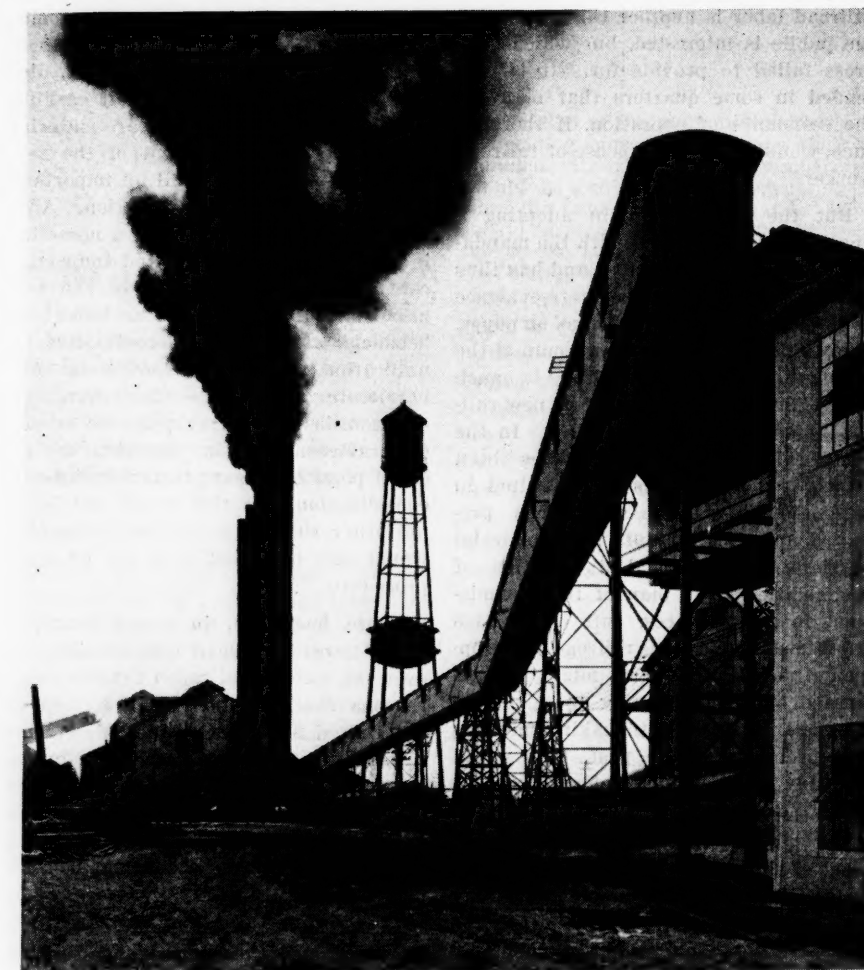
\$1,200,000 Insulating Board

Plant

Armstrong-Newport Co. builds factory at Pensacola for making Temlok, a new insulating board, from spent pine chips.

HAVING set a new record in speedy construction, the Temlok factory of the Armstrong-Newport Company at Pensacola, Fla., brings another large industrial plant to the South. The product will be marketed as house insulation and for industrial purposes. Capital investment approximates \$1,200,000.

The enterprise represents an absolute partnership of the Armstrong Cork Company of Lancaster, Pa., and the Newport Company of Carrollville, Wis. The Armstrong Cork Company manufactures linoleum and cork products, having established sales offices in leading cities throughout the country, each with an organization of sales engineers for marketing insulating materials. Through the existing sales staff of the Armstrong

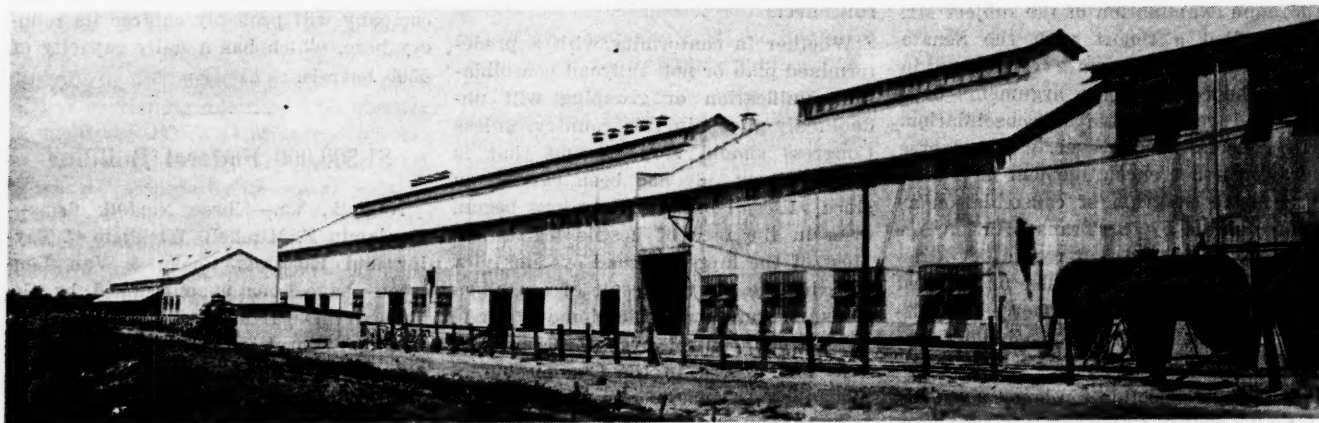


Main Conveyor from Newport Boiler House to Chip Bin Shown Attached to Pulp Building of Insulating Board Mill at Pensacola, Florida

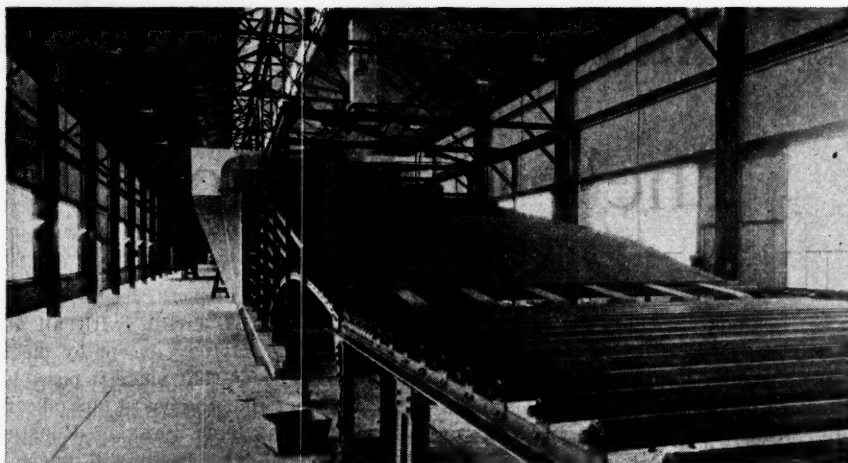
Cork and Insulation Company the distribution of Temlok will be supervised.

The Newport Company has a very

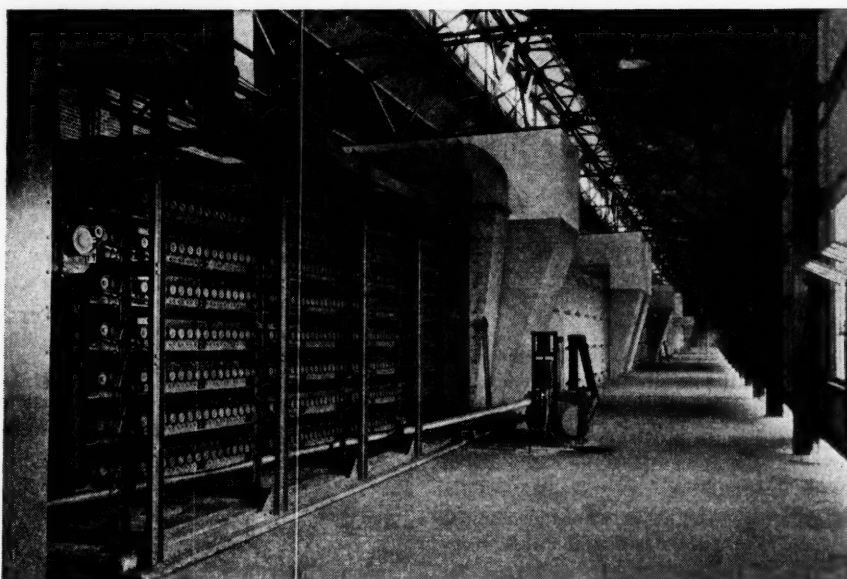
large naval stores plant at Pensacola, Fla., which furnishes the raw material used in manufacturing the new insulat-



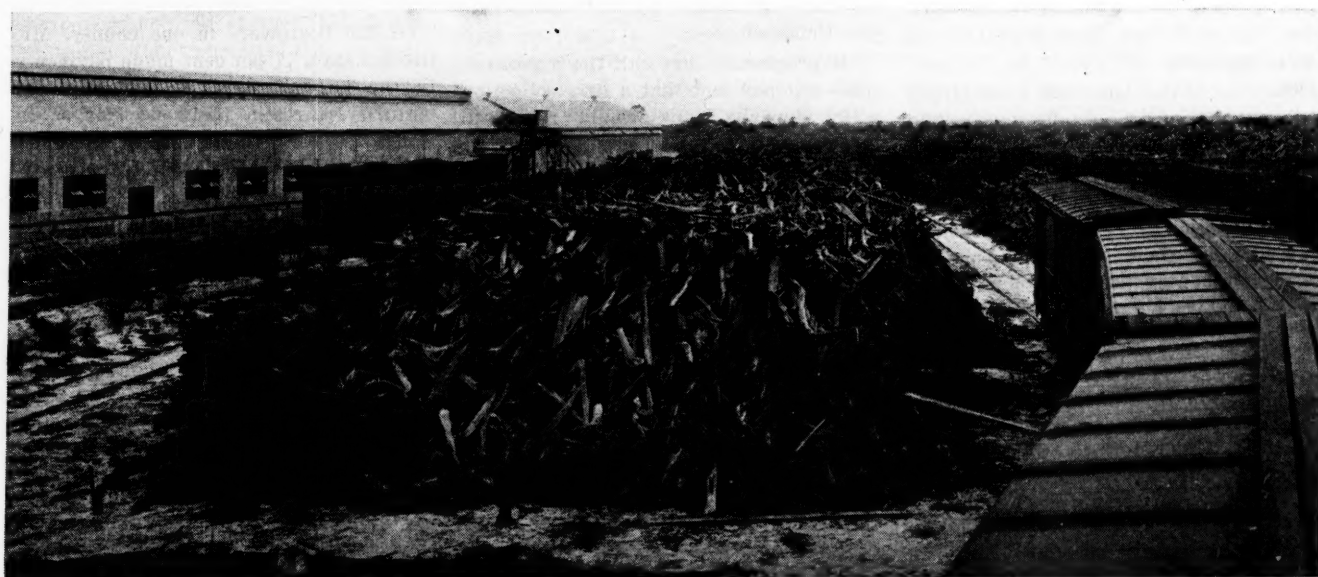
Burner Buildings and, at Extreme Left, Warehouse and Shipping Platform



Dried Board from Eight Separate Decks Is Delivered to the Final Conveyor On Its Way to Dry Saws.



Loading End of Dryer, Which Is 504 Feet Long. The Board Is Cut Into 12-Foot Widths And Run Through the Dryer On Eight Separate Decks, Shown at Left Foreground.



Wood Storage Yard. A Three Month's Supply of Raw Materials Is Kept on Hand at All Times

ing board. This company will direct all manufacturing operations. Erection of the factory at Pensacola is the culmination of an extensive search for a suitable raw material available in large quantities to produce a comparatively low-cost insulating board. Among materials studied were cat-tail fibers, Spanish moss, rice, straw, mica and other materials. Of all the material tested, investigators reported yellow pine stumps, which cover thousands of deforested acres in the South, as the best.

At the Newport Company plant for the extraction of rosin from pine stumps, an adequate source of raw material was at once presented. The pine chips remaining after the rosin extracting process contain tough fibers that, when properly fabricated, produce an insulating board described as tough, sterile, easily handled and economical.

In the new factory the pine chips from the adjacent Newport Company's plant are delivered on conveyors and put through the process necessary to reduce these chips to fibers of the correct size to make a good insulating board. In the extraction of rosin from the pine chips a goodly percentage is left in the chip, and through the preparation period this rosin is retained in the fibers, accounting, it is said, for the low water absorption of the finished product. After the chips are initially treated, they are carried on conveyors to mixing vats, where sufficient water is added to bring the pulp to the right consistency. The pulp passes on to a forming machine. The wet board is taken from the forming machine by "doctor blade" and is carried on continuous roller conveyors to cut-off saws, which cut the wet cake into pieces 12 feet by 16 feet. In this form the material is sent through dryers to saws at the oppo-

site end, where the finished board is cut into desired sizes for sale. Roof insulation is manufactured in boards 22 by 47 inches in half-inch and one-inch thicknesses. House insulation will be manufactured in half-inch and one-inch thicknesses, 4 feet wide and in 6, 7, 8, 9, 10 and 12 foot lengths. Plaster lath is made 18 inches wide and 48 inches long, in two thicknesses.

Temlok will be sold industrially through branch offices of the Armstrong Cork & Insulation Co., for such uses as roof insulation, refrigeration—both mechanical and ice—and for railway cars. Temlok house insulation will be marketed exclusively through retail lumber dealers.

The Armstrong-Newport Company is headed by S. W. McCune, Jr., first vice-president of the Newport Company; J. H. McCormack, vice-president in charge of manufacturing of the Newport Company, and H. A. Truslow, second vice-president of the Armstrong Cork Company, are vice-presidents. The treasurer of the new company is C. C. Brett, treasurer of the Newport Company, the assistant treasurer is W. H. Larimer, treasurer of the Armstrong Cork Company. The secretary is J. E. Kupperian, secretary of the Newport Company.

Of Interest to Fruit Packers

Fruit growers and packers generally are granted the right to use the borax method of fresh fruit preservation in a decision handed down in the Supreme Court of the United States by Justice McReynolds, in the suit of the American Fruit Growers, Inc., contesting the validity of the Brodrex patent of the Brodrex Company for treating fresh fruit and vegetables. The decision reverses opinions of two lower courts, states a release from Batton, Barton, Durstine & Osborn, Inc., New York.

The case of the American Fruit Growers was supported by strong memoranda from the Department of Agriculture and the state of Florida. Before the case was argued the states of California, Alabama, Arizona, Georgia, Louisiana and Texas added their endorsement to the position taken by the department.

\$4,500,000 Postoffice Bids

Kansas City, Mo.—The Treasury Department, Jas. A. Wetmore, Acting Supervising Architect, Washington, will open bids May 15 for construction of a \$4,500,000 postoffice building here, except elevators, dumbwaiters and mail handling equipment.

Texas Farmers Meet Their Obligations

THE manner in which the farmers of Texas are meeting their obligations to the Federal Land Bank of Houston is set forth in appreciative fashion in a letter from M. H. Gossett, president of the bank, to a member of Congress from Texas, and forwarded to the MANUFACTURERS RECORD by E. C. Barkley, vice-president, Second National Bank, Houston.

Referring first to an allegation that 200 farmers in one Texas county "cannot meet their semi-annual installments on their Federal Land Bank loans" and to an outside request for postponement of foreclosure proceedings, Mr. Gossett says:

"The Federal Land Bank has yet to order its first foreclosure in the drought area in Northwest Texas, a territory larger than the state of Ohio. We have loaned \$56,340,000.

"Weather conditions have been subnormal in all this area for 1930, and all staple crops like cotton, wheat and sorghum grains suffered severely from drought. In June, 1930, the existence of severe drought was recognized. We have closed in new loans, since June 1, 1930, in the drought area, \$3,791,000. Average amount of installments in this area for the same time is \$2,539,000. Deducting 11 per cent, the average refunding loan, it follows that the Federal Land Bank has passed in new funds to this area \$1,200,000 in excess of total payments due the bank.

"If prophecies that half the borrowers could not pay and that a firm collection policy by the bank would result in wholesale foreclosures, had proved true, there now would be a delinquency in this area in excess of \$1,250,000. As a matter of fact, total delinquency to the bank as on February 28, 1931, is less than \$200,000 in the entire state. If the estimate as to amount of delinquency in this area were sound, then would we have been justified in extending new credit in excess of \$1,000,000 over the amount owing us in this district and period?

"The benefits of Federal Land Bank loans can be secured only by prompt payments. It stands for fundamental cooperative credit, necessarily the strictest credit known to the world. It cannot be otherwise. You cannot have the ben-

efit of cooperative credit, with all its economies and savings, except by meeting the conditions that make it possible. It is apparent that the board and officers of the Federal Land Bank of Houston have more confidence in the will, purpose and ability of our borrowers to pay than persons have who prophesy defaults in large volume."

Borrowers, Mr. Gossett adds, realize that the bank's profit is less than a gross 1 per cent per annum, measured by the interest the bank must pay on its bonds, and the interest charged the borrower. The average interest rate of 5½ per cent, as compared to the former rate of 8 and 10 per cent, must be maintained, and "borrowers in this area save from 2½ to 4½ per cent per annum on their interest charges, which is in excess of \$1,500,000 per annum." He continues:

"The people of this section of Texas are virile and resourceful. They find funds with which to meet their payments. There is no part of Texas or the United States which has assurances of good crops and good prices every year. Every part is subject to drought, floods, insects, short crops and low prices in any year. We could not sell our bonds and give the necessary guaranty of prompt payment of interest, if it were understood that borrowers in substantial numbers in wide areas need not pay if they had disappointing crop conditions. Experience of 14 years of both bank and farm loan associations shows that as delinquency in payments and taxes grow, the hazard of loss to the borrower, the bank and the association increases."

Of 525 borrowers in one county, Mr. Gossett says, 77 per cent made payments in the first 27 days of the month of maturity, through their association, in contrast with predictions that not more than 50 per cent could make their payments, and this, he adds, is the worst record in the area. Of 638 borrowers through an association in another county, "maturities in January were paid and a delinquency of only 1.4 per cent of the total is past due."

"The delinquency to the bank covering the whole state today is less than 2 per cent of the total amount owing annually, including the drought area," is Mr. Gossett's summary.

Gloomy predictions of non-payment, Mr. Gossett concludes, tend to encourage delinquencies, and he urges a strong cooperative effort to make the Federal Land Bank loans constructively helpful.

Rapid Recovery of Arkansas

By
MILES C. SHOREY

A SAWMILL at Helena, idle for more than a year, is preparing to resume operations immediately with 175 workers. Radishes in carload lots are being shipped from Hope, in the southwestern part of the state and from Newport in the northeast. The Red Cross has packed up and gone. Arkansas, in fact, is staging a comeback from a major disaster, a recovery which bids fair to become one of the most rapid the country has ever witnessed. John Barton Payne, chairman of the Red Cross, pictured the situation in a homely but effective manner when he declared in Washington a few days ago that Arkansas "has her tail over the dashboard" and is running away.

Three months ago the country was fearful lest Arkansas starve. Disaster experts of the Red Cross, assisted by more than 6000 volunteer workers, were feeding hundreds of thousands of country people and the nation had been appealed to for \$10,000,000 to finance the relief campaign in the drought stricken states. Carloads of food with great banners showing that they were enroute to the needy in Arkansas were rolling over the rails from every point of the compass. Small wonder that the average American was left with the impression that Arkansas had suffered a blow from which it would not recover for years. Also it is readily understood why manufacturers have been hesitant to place advertising contracts with Arkansas newspapers because of their belief that the people cannot purchase the commodities they have to sell.

The rapidity with which the state is recovering is perhaps beyond the realization of those who have not investigated conditions on the ground since the first of April, yet it is not so extraordinary when one understands what really was involved during the drought emergency. It is not generally known that the relief program of the Red Cross was confined solely to the rural districts. There was distress in the cities and towns because of unemployment, but the same conditions existed throughout the nation. At no time did the State Bureau of Labor report as out of work more than 35,000 who normally were gainfully employed, excluding of course agricultural workers.

The amount of cash in circulation and the volume of business being done by

wholesalers and retailers is gratifying. The Red Cross, in the course of its operations throughout the winter, purchased upwards of \$3,000,000 worth of food for distribution and every penny of it went to local merchants, who in turn replenished their stocks through Arkansas wholesalers or jobbers. In addition to this sum the farmers, up to April 10, had been granted \$5,500,000 in loans from the Federal feed, seed and fertilizer fund appropriated by Congress during the closing days of the recent session. The State, on its part, appropriated \$1,500,000 for use as capital loans for the organization of local agricultural credit corporations, while hundreds of thousands of dollars for the same purpose were made available through Federal sources. Because one of these corporations can discount with the Federal Intermediate Credit banks agricultural paper in a sum six times greater than its capital, it can readily be understood that through the corporations additional millions have been provided.

These millions of dollars are being poured into the ordinary channels of trade in the form of payrolls to thousands of agricultural workers and to business houses supplying seed, fertilizer, farm equipment and other commodities. Long before the loans became available the cash placed in circulation by the Red Cross had had a marked effect on business, and the advent of spring found the average Arkansas retailer in a better position than he had been in many years at that time. Previously the merchant had carried his customer through the winter, to be repaid in the spring when the farmer negotiated a loan for the season's operations and borrowed enough to pay his current obligations. The customer was carried again through the summer and again settled with the merchant when crops were sold in the fall. This spring, however, the average retailer, especially in the rural trading centers, found himself with little or nothing on his books because his business during the winter had been on a cash basis. And that is why salesmen calling

on the merchants have found them easier to sell than in the past. Merchants have money and they are not afraid to buy.

Bank suspensions began last summer and subsequent to July 1, 1930, a total of 144 institutions closed, tying up millions of dollars. Under the Arkansas law a state bank—and most of the banks are of this type—has the privilege of suspending for five days when faced with difficulties, and during the debacle growing out of the Caldwell crash, many banks took advantage of this provision to get their feet on the ground. Up to April 10, sixty-five of the banks which had suspended had resumed operations and a number of new institutions had been established. Today the banks of Arkansas, as a whole, are on a firmer footing than ever before.

Contrary to general expectations, the Legislature adjourned at the end of its biennial session early in March without having enacted legislation that would tend further to hamper business and industry by over-regulation or additional taxes. The Legislature even went so far as to amend the notorious back tax law—the only one of its kind in the country and a stumbling block heretofore in the way of investment in Arkansas—by limiting such action to instances where there was prima facie evidence of fraud on the part of the corporation in returning its assessment.

Probably the most noteworthy evidence that Arkansas is up and coming is a project launched by the Arkansas State Chamber of Commerce in cooperation with the American Mining Congress early this year. The two organizations jointly are conducting state-wide industrial and flow-of-goods surveys to determine in concrete form the opportunities for capital, business and industry. Although little has been said about the undertaking, even in Arkansas, the work has progressed so rapidly that the first quarter of the year ended with the program 30 days ahead of the expected schedule. It has already been determined that Arkansas has 102 metallic and non-metallic minerals of commercial quality and quantity, the largest variety of any state in the union, and completion of the \$43,000,000 hydro-electric power project on White River virtually in the center of the metallic mineral district is expected to result in the estab-

lishment of mining and industrial enterprises on a large scale. Permission to construct the system of dams involved under this plan was granted last year to the White River Power Co., subsidiary of the Electric Power & Light Corp., Harvey C. Couch, president, Pine Bluff, by the Arkansas Railroad Commission. The lakes to be created will cover 80,000 acres of territory and will extend from a point near Cotter, where the lower dam is to be located, up the river as far as Forsythe and Tecumseh.

Another project to accelerate development of Arkansas resources is the Carpenter hydro-electric plant under construction on the Ouachita River near Hot Springs, by the Arkansas Power & Light Co., also controlled by the Electric Power & Light organization. To be completed about July, next, this plant is to have a 56,000-kilowatt initial capacity and as ultimately planned will generate 84,000 kilowatts.

Some years ago the Arkansas Legislature by resolution adopted "The Wonder State" as descriptive of the commonwealth, a substitution for "The Bear

State." One who visits Arkansas today and observes what it is doing, bearing in mind its experience during the winter, is inclined to believe "The Wonder State" is not a misnomer.

West Texas Commerce Body to Meet

The West Texas Chamber of Commerce will convene at Lubbock, Texas, on May 14 for its thirteenth annual convention. During the six group conferences which are scheduled on the program, questions pertaining to the industrial, agricultural and highway development of West Texas will be discussed. Among the objectives are: Feeding of West Texas grain to West Texas livestock; restoration of the West Texas oil and gas industry to a more prosperous level; a program for early payment of loans made to West Texas farmers under provisions of the drought relief legislation, and adoption of a policy toward the proposed state highway bond issue.

\$1,250,000 Post Office and Courthouse

The Government has recently completed a new \$1,250,000 post office and courthouse at Dallas, Tex., with sufficient space to accommodate approximately 800 employees. Of reinforced concrete construction, the building is supported by a foundation consisting of large caissons put down to bedrock. Exterior walls are of concrete to the first floor, and from the first floor up of faced brick and limestone. Entrance steps, platforms and balustrades are of granite; some of the architectural features such as panels between certain windows and a part of the cornice and belt courses are of terra cotta. A large work

room is provided for the post office, with a wood block floor, together with several large court rooms and numerous small offices for various departments. Corridor floors are of quarry tile with marble borders, and inserts; toilet floors of ceramic tile, and other floors of wood. Marble wainscoting is used in the corridors. Plans and specifications were prepared in the office of Jas. A. Wetmore, Acting Supervising Architect of the Treasury Department, and general contract was handled by the N. P. Severin Company, Chicago, Ill., under the supervision of Willis B. Hayes, its construction engineer.



New
Federal
Building
in
Dallas,
Texas

\$17,500,000 COTTON MILL MERGER

Big Deal Involves 20 Mills in Carolinas

Gastonia, N. C.—Plans are in progress for the consolidation of 20 cotton mills in the Carolinas which would result in one of the largest combed yarn manufacturing companies in America. Directors of 14 cotton mills, meeting here, approved plans for the merger of their mills into a new company to be known as Textiles, Inc., and authorized directors of the company to acquire six other plants by an exchange of stock. Meetings of stockholders of the 14 mills involved in the initial merger have been called for May 26 to ratify consolidation plans.

The mills affected initially include the Cora Cotton Mills, King's Mountain, N. C.; Elizabeth Mills Co., Charlotte, N. C.; Merco Mills, Inc., Lincolnton, N. C.; Priscilla Mills, Ranlo, N. C.; Arkray Mills, Inc., Arlington Cotton Mills, Gray Manufacturing Co., Mutual Cotton Mills, Myers Mills, Inc., Myrtle Mills, Inc., Osceola Mills, Inc., Seminole Cotton Mills Co., Victory Yarn Mills Co., and Winget Mills Co., all of Gastonia. The six mills which it is proposed the new company shall acquire include: The Dilling Cotton Mills, King's Mountain; Helen Yarn Mills and the Wymojo Yarn Mills, both of Rock Hill, S. C.; Lockmore Cotton Mills, York, S. C.; the Flint Manufacturing Co. and the Ridge Mills, Inc., both of Gastonia.

The authorized capital stock of Textiles, Inc., is \$17,500,000, with more than \$10,000,000 outstanding upon the formation of the initial consolidation, which will control approximately 300,000 spindles. Plans of the merger are based on an exchange of stock of the individual mills for stock in the new company. Each of the plants has been appraised and common stock will be issued equal to valuations, with 7 per cent preferred stock to be exchanged for net working capital. For organization purposes and to serve until the next annual meeting of stockholders of the new company, the following directors were named: A. G. Myers, J. H. Separk, C. C. Armstrong, J. L. Gray, A. K. Winget, S. N. Boyce and R. G. Rankin, all of Gastonia, where the main offices of the new company will be maintained.

\$2,200,000 Charlotte Bonds

Charlotte, N. C.—A new issue of \$2,200,000 City of Charlotte bonds, to bear an interest rate of 4½ per cent, has been purchased by a syndicate headed by the Bancamerica-Blair Corporation, New York, at a price of 100.41.

Oklahoma Power Plant

Addition

A 15,000-kilowatt addition to the generating plant of the Public Service Co. of Oklahoma at Weleetka, Okla., on the North Canadian River, was recently placed in operation, bringing the generating capacity of the plant to 40,000 horsepower and of the system to 100,000 horsepower. The plant uses daily for cooling the condensers alone 56,000,000 gallons of water. The circulating water system consists of a dam across the North Canadian River one and one-fourth miles down stream from the station, creating an additional two-foot head on the river, supplying adequate cooling water. Condenser water is discharged into Alabama Creek north of the plant, flows down the creek into the river above the dam and circulates back to the station intake, covering a distance in all of two and a half miles. To illustrate the economy of operation, the new unit generates a kilowatt hour per 1.4 pounds of coal, or per 15.5 cubic feet of natural gas burned, compared with 7.5 pounds of coal or 82 cubic feet of natural gas required to produce one kilowatt-hour of electric energy 10 years ago. Construction of the new unit neces-



This Addition Increases the Generating Capacity from 40,000 to 100,000 Horsepower

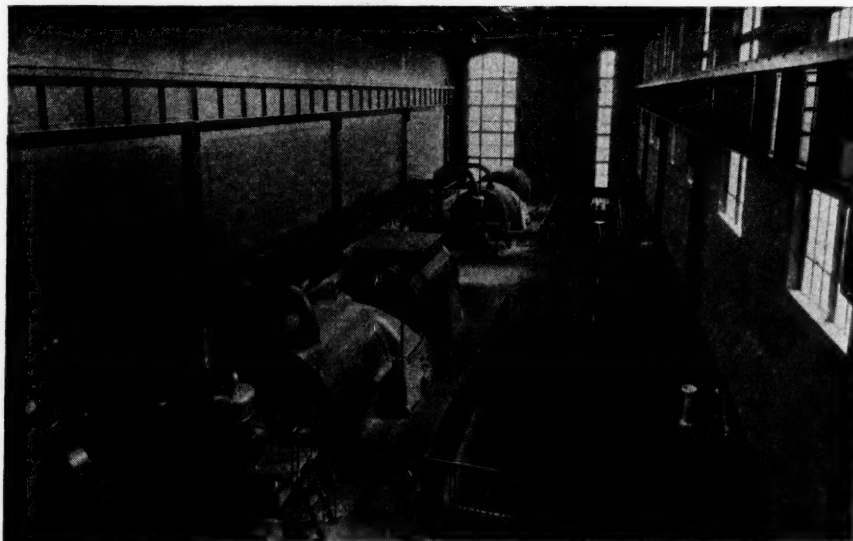
sitated the building of a second 66,000-volt transmission line to the West Tulsa power plant of the company, providing additional protection from interruption to service.

The building, 65 by 156 feet, is finished to harmonize with the first unit. In the offices, turbine room, machine shop and boiler room the wainscoting is of tan salt glazed brick, impervious to moisture. Above this is a variegated light buff, iron spotted brick, smooth faced and moisture proof. Enamel brick is used in the intake, chosen to eliminate the necessity of painting. The station is built on

partially filled ground and foundation is laid on large concrete caissons extending beneath the surface.

W. R. Grimshaw Co., Tulsa, the general contractor, required about eight months to complete the unit and over the entire period maintained a modernly equipped camp, much like a complete small town, including cottages, dining hall, kitchen, and other conveniences. Sub-contracts were awarded the following firms:

- Steel for Superstructure—Patterson Steel Co., Tulsa, Okla.
- Steel Tanks—United Iron Works, Okmulgee, Okla.
- General Piping—Midwest Piping & Supply Co., St. Louis, Mo.
- Traveling Screens in Intake—Chain Belt Co., Milwaukee, Wis.
- Brick—Acme Brick Co., Tulsa, Okla.
- Dam—L. E. Myers Construction Co., Chicago, Ill.
- Boilers, Superheaters and Air Heaters—Babcock & Wilcox Co., New York
- Furnaces—M. H. Detrick Co., Chicago, Ill.
- Draft Equipment—B. F. Sturtevant Co., Inc., Boston, Mass.
- Generator, Condenser and Auxiliaries, Transformers and Oil Circuit Breakers—Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
- Generator Air Coolers and Stage Heaters—Griscom-Russell Co., New York
- Deaerating Heater—Hoppe's Mfg. Co., Springfield, Ohio
- Vacuum Pump—Standard Power Equipment Co., St. Louis, Mo.
- Oil Cooler—Andale Co., Philadelphia, Pa.
- Boller Feed Pumps—A. S. Cameron Steam Pump Works, New York
- Bilge Pump—Yeomans Bros. Co., Chicago, Illinois
- Service Pump—Worthington Pump & Machine Corp., New York
- Circulating Water Piping—U. S. Pipe & Foundry Co., East Burlington, N. J.
- Disconnecting Switches—Delta Star Electric Co., Chicago, Ill.



Interior of Plant Showing New Generating Unit

\$4,000,000 Washington Memorial Temple

The exterior of the George Washington Masonic National Memorial under construction at Alexandria, Va., at a cost of approximately \$4,000,000, has been completed and the interior work, including drainage and plumbing, is under way. The structure is expected to be finally completed in time for its dedication on Washington's birthday anniversary in 1932. Occupying a site high above the surrounding country, the temple overlooks a scene of beauty and historic interest. From the highlands at the Falls of the Potomac, to the east, an undulating plain extends to the bend of the river 6 miles below Alexandria, where it turns to the west and borders the shores of Mt. Vernon Farms. To the northeast and 5 miles away may be seen Abingdon, the home of John Custis, son of Mrs. Washington; to the north are the wireless towers at Arlington, the home of George Washington Parke Custis, and later of Robert E. Lee. In front and beginning at the foot of the temple site is the town of Arlington, a mile down the river. In the rear of the temple to the west is the octagon tower of the Episcopal Seminary and to the south is Cameron Valley, named for Thomas, the Sixth Lord Fairfax.

The site of the building is said to be the one chosen by Jefferson and Adams for the United States Capitol, but the location was vetoed by Washington because he owned other grounds in the vicinity and feared the location of the capitol there would call forth criticism. The building measures 240 feet from east to west and has a width of 168 feet. It is 333 feet high and has an entrance through a portico of 8 Doric columns, the whole being of pure Greek architecture. A terrace wall surrounds the entire building.

An interesting feature of construction is that no brick or structural steel was used. Granite was set and backed up with concrete, the wall varying from 44 to 30 inches where stone was employed. Interior columns are of stone and the floor systems of reinforced concrete, supported by stone columns or by bearing walls of concrete, the latter varying in thickness from 10 to 48 inches. The foundation is a mat 9 feet thick in the center stepping down to 4 feet 6 inches at the outer edge and was poured in a continuous operation with 302 hours as

the lapsed time, a total of 12,353 barrels of Vulcanite Portland cement being used.

Interior granite columns of the first floor rest directly on the mat. These are monoliths, 16 feet high and 4 feet 6 inches in diameter, polished and of the Doric order, while corresponding columns on the second floor are of the Composite order, consisting of a moulded base, three drums and a polished carved cap. They are 39 feet 6 inches high and 4 feet 2 inches in diameter. Interior marble columns are Doric, fluted and polished, monolith, 16 feet 6 inches high and 2 feet 2 inches in diameter. Portico columns, consisting of 3 drums and a cap, are fluted Doric with hammered surface. These are 33 feet high and 5 feet 2 inches in diameter. The ceiling of the portico is a flat stone arch made up of 2 main girders, 6 cross beams and a series of intermediate beams and coffers. The entire arch weighs 270 tons and is 38 feet above the portico floor. It is

held in place by 2 key stones each weighing 13 tons. Stone in the exterior walls averages 9 square feet of surface and 12 inches in thickness. A total of 135,000 cubic yards of earth was removed from the site of the building, and used to form terrace approaches.

The portico leads into a great atrium comprising the main central room of the structure and forming the memorial hall in which will be placed a heroic size statue of Washington. The hall is 100 feet long, 70 feet wide and in it, supporting the weight of the towers, are 8 columns of green granite.

Broad steps from the drive level in front of the building lead to the terrace which completely surrounds it and other steps lead to the portico through which is the way to the grand entrance. The building is being erected by the George Washington Masonic National Memorial Association, incorporated under the laws of Virginia for that purpose. Helmle & Corbett, New York, now Corbett, Harrison & MacMurray, are the architects; Osgood & Osgood, Grand Rapids, Mich., consulting architects; Olmsted Brothers, Brookline, Mass., landscape architects; Gunvald Aus, New York, structural engineer; Daniel E. Moran of Moran, Maurice & Proctor, New York, engineer for the foundations, and the Cranford Company, Washington, D. C., general contractor.

Exterior
of
the
George
Washington
Masonic
Memorial
Is
Now
Complete



Handling Small Packages *in the Shop*

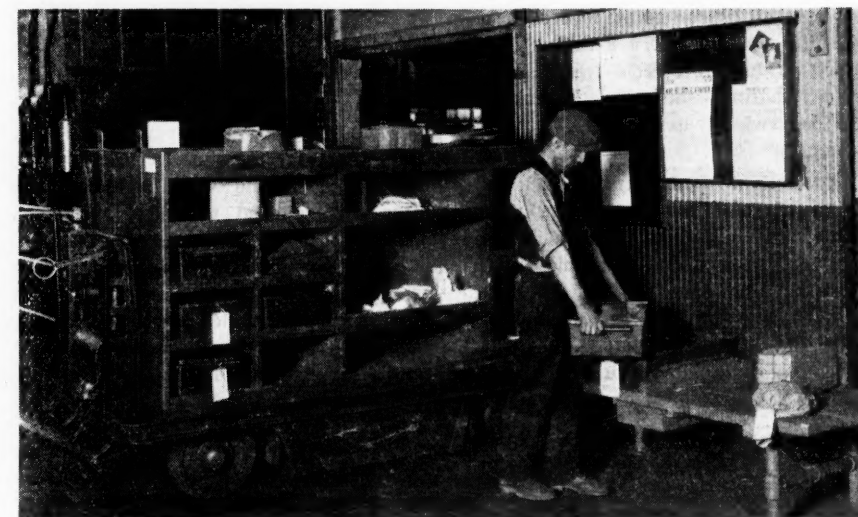
By C. A. FIKE

Superintendent, Plant Transportation Department, Westinghouse
Electric and Manufacturing Company, East Pittsburgh, Pa.

This paper, prepared for the National Materials Handling meeting of the American Society of Mechanical Engineers, gives a description of a plan for handling small packages in the shop by means of industrial trucks running on scheduled routes. The Shop Express plan operated at the East Pittsburgh plant of the Westinghouse Electric and Manufacturing Company is used as the basis for costs computation.

THE same transportation problems exist in an industrial plant as in a city, large amounts of material must move through congested areas in the shortest possible time. In the city, it has been found economical to segregate the small package delivery from that of the heavier and bulkier material, and such segregation has been a paying proposition to both the shipper and the carrier. That being the case, and the same problem existing, there is reason to believe the same set-up should pay within the industrial plant.

Ordinarily, the intra-plant cost of handling these small packages is one of the hidden costs of manufacturing. The work, unless provided for by a special set-up, is taken care of by the regular truck or messenger service, and the cost per package, if calculated, will show



Driver Delivering Material to Receiving Station

A close-up view of the truck body station bench and a standard body. Note lifting lugs on body for easy handling when removed for maintenance work

some very high and startling figures. In some cases it will be found more costly to move a package 1000 feet in the shop than to move the same package from Pittsburgh to Cleveland. As proof of this, a messenger, paid 40 cents per hour, is sent to a storeroom for several special bolts; from the time he leaves the department until he returns, including a wait at the storeroom, a half hour

elapses; figuring the labor cost only, the trip costs 20 cents. The same package shipped from Cleveland to Pittsburgh by parcel post would cost about 10 cents. This indicates the money return possibilities on a small package delivery system where the volume of work is large enough to justify installation.

Such a condition existed in our East Pittsburgh plant, a few years ago, and we made a survey to ascertain the possible amount of business available. The number of packages shipped from each section was easily ascertained but it was necessary to make actual daily checks to find what percentage of these were of a size to be considered. Weight limits were established at 100 pounds and size was determined by standard shop tote-pan—that is, 6 by 12 by 24 inches, with some exceptions. Flexibility is retained and used in any way that a saving can be made. Frequent service is a fundamental of the plan and this is taken care of by the route and the number of trucks running on the route. In laying out the route, the cycle must cover the entire plant, but this is not always in a direct line.

Containers, receiving and shipping platforms and truck bodies must fit; one



Showing Body Construction and Mounting of Express Truck

must suit the other. Material must be packed so it can be easily and quickly handled with the least chance of damage or delay, therefore as a container, the standard tote-pan is adopted; for smaller goods, a "salt sack" is used, and for the larger single piece of material no container is needed. The main thing is that each shipment, regardless of the amount of pieces, is so packed or tied that it can be handled as one unit. For shipping and receiving platforms a small bench is adopted, in size 3 by 6 feet by 18 inches high, with a wood strip division in the center, one side being used and marked for outgoing, the other for incoming material. Truck bodies are designed to facilitate safe transport and rapid handling, and compartments are provided which can be locked when necessary.

The method of checking on deliveries involved a serially numbered tag, with a stub for the shipper and retained by him as a shipping record, and one for the truck driver to detach on delivery to the proper receiving station. From these stubs, the record was made.

Upon starting operation of the plan, time clocks were used at various points

on the truck routes. Care was used in picking the truck drivers and also their work was placed on a wage incentive basis. At the start, about 500 packages per day were handled. Simple shipping rules were printed and distributed and personal contact was made by transportation supervisors with the men involved.

Within a year, about 15 messengers had been taken off this work, as supervisors responsible for manufacturing cost soon realized it was cheaper to use the shop express at a cost of 2½ cents to 3½ cents per package, rather than a messenger at 35 cents or 40 cents per hour.

As first established, there were three routes, each covered by a truck in about two hours, with an average delivery time of about one and three-quarter hours. This time was too long, and later was reduced to about one hour. Records showed an average of 1200 packages shipped per day, with about two lost or missent per month. About 10 phone calls per day are received concerning shipments; these are checked and answered immediately. Throughout, this work is handled on the same basis

as that of any company furnishing service—that is, economics must justify its continuance. This plan, has been in use for five years, not as originally started, but changed as necessary to meet the needs and requests of the shop.

Two items in this plan, the wage incentive and the shipping instructions are considered of primary importance. The incentive gave the truck drivers an opportunity to increase their earnings by increasing the number of packages handled and encouraged them to solicit business by careful and fast handling work. The shipping instructions enable the shop sections properly to tag, mark and check their shipments and make it easier for the transportation department to sell the plan. The operation does not include the delivery of letter mail.

The shop express annual cost is: Operating, including labor, \$4680; annual depreciation on depots, \$272; on truck bodies, \$60; depreciation, maintenance, taxes, etc., on trucks, \$2400; interest on investment, approximate, \$415; annual total, \$7827.

The average deliveries per month are 20,000, or about 3.2 cents per delivery.

New Aerial View of Texarkana, Ark.-Tex.



This is the first photograph of its kind to be taken since completion of the Union Station, shown in the foreground, and the new McCartney Hotel across the street from the station. The Union Station is located half in Arkansas, and half in Texas.

Operating Statistics of Southern Railroads

THE following summary of freight and passenger service operation of Class I steam railroads in the South has been compiled by the MANUFACTURERS RECORD from the latest report of the Bureau of Railway Economics. The tabulations are based upon official summaries of the Interstate Commerce Commission, which cover the United States

as a whole and various regions of the country from 1920 to 1930.

For purposes of comparing two depression periods, the figures for 1920-1921 and 1929-1930 are used in this tabulation for the South. While it excludes Maryland, the totals represent the entire South for all practical purposes. It is noted that the freight service has shown an increase since 1920 and the greater efficiency of the railroads was illustrated

by the decrease in freight train hours operated with gains in mileage. The net ton-miles of revenue and non-revenue freight showed a substantial gain in 1930 over 1920, and the decrease in net ton-miles between 1929 and 1930 was not as marked as was the decrease between 1920 and 1921.

Passenger train miles declined, although there was a gain in the average miles of road operated.

FREIGHT AND PASSENGER SERVICE OPERATING STATISTICS OF CLASS I STEAM ROADS IN THE SOUTH

Item	1920	1921	1929	1930
Freight Service:				
Average miles of road operated	75,981	76,711	78,937	78,984
Average miles of all main tracks operated	80,904	81,082	85,789	85,949
Freight train-miles	185,032,000	158,457,000	192,823,000	172,144,000
Freight locomotive-miles:				
Principal and helper	193,147,000	164,242,000	199,880,000	177,935,000
Light	4,764,000	3,797,000	4,552,000	3,904,000
Total	197,911,000	168,039,000	204,432,000	181,839,000
Freight car miles:				
Loaded	4,053,047,000	3,377,062,000	5,213,579,000	4,573,255,000
Empty	1,958,759,000	2,015,015,000	3,292,687,000	3,067,143,000
Total	6,011,806,000	5,392,077,000	8,506,266,000	7,640,398,000
Gross ton-miles (including locomotive and tender)	*	237,987,000,000	383,491,000,000	343,668,000,000
Gross ton-miles (excluding locomotive and tender)	242,802,000,000	207,366,000,000	338,450,000,000	303,149,000,000
Net ton-miles (revenue and non-revenue)	117,220,000,000	94,175,000,000	147,850,000,000	130,314,000,000
Freight train-hours	17,323,913	13,449,402	14,108,173	12,048,404
Average number of freight locomotives on line:				
Serviceable	6,438	6,568	7,127	6,894
Unserviceable	1,966	1,979	1,254	1,365
Total	8,404	8,547	8,381	8,259
Average number of freight cars on line:				
Serviceable	553,288	534,076	583,338	583,292
Unserviceable	40,026	82,799	39,109	42,025
Total	593,314	616,875	622,447	625,317
Net tons of fuel consumed in freight service	24,061,936	19,404,673	23,341,345	20,321,689
Passenger Service:				
Average miles of road operated	74,095	74,057	76,293	76,359
Passenger train-miles	146,947,000	143,518,000	138,036,000	130,945,000
Passenger train car-miles	888,637,000	848,752,000	923,615,000	878,480,000
Average number of passenger locomotives on line:				
Serviceable	2,728	2,877	2,861	2,748
Unserviceable	820	817	495	526
Total	3,548	3,694	3,356	3,274
Net tons of fuel consumed in passenger service	8,528,828	7,741,692	7,100,224	6,639,854

*Not available.

Mid-South Engineers to Meet

Members of the Mid-South section of the American Society of Civil Engineers convene at Memphis, Tenn., on April 30 for their second annual meeting. Among those scheduled to speak are: Francis Lee Stuart, and George T. Seabury, president and secretary, respectively of the Society; Major Brehon B. Somervell, newly appointed U. S. engineer for the Memphis district; J. F. Coleman, consulting engineer, New Orleans; Thomas H. Allen, consulting engineer, Memphis; T. T. Knappen, U. S. Area engineer, and Kenneth Markwell, engineer for the

Memphis Harbor Commission. Following a talk on the city plant of Memphis by Edward B. Klewer, of the Memphis Planning Commission, an inspection trip is to be made to points of interest around Memphis.

Natural Gas Meeting at Memphis

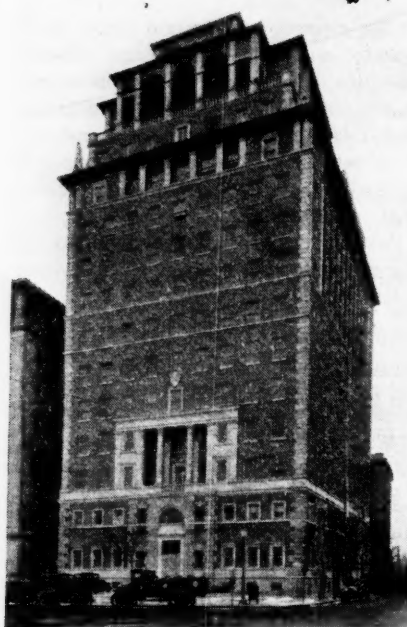
Addresses by leaders in the gas industry will feature the annual convention of the Natural Gas Department of the American Gas Association, to be held May 11-14, at Memphis, Tenn. Convention headquarters will be located at the Hotel Peabody.

Oil From Coal by New Process

A new process of obtaining oil from coal, recently patented, has caused British firms at Buckley and Manchester, England, to amalgamate for the purpose of erecting a 1000-ton-a-week plant, according to the Department of Commerce. It is claimed that by this new process one ton of raw coal can be treated in each retort in 24 hours, and the output is estimated at 10,000 gallons of gasoline, 10,000 gallons of fuel oil and 750 tons of smokeless coal a week, in addition to sufficient gas to heat the retorts.

\$1,500,000 Hospital Building in St. Louis

A new 14-story building coordinating the McMillan Eye, Ear, Nose and Throat Hospital and the Oscar Johnson Institute for research and teaching in ophthalmology and otolaryngology has been completed in St. Louis for Washington University at a cost of \$1,500,000.



Hospital Unit Completed

The first and ground floors house the eye, ear, nose and throat clinics, each occupying nearly 9000 square feet of floor space, while the second floor is divided into six operating rooms and accessory rooms, an auditorium to seat 120, conference room and locker rooms for visiting physicians, nurses and medical social workers. The next five stories provide 150 beds for the hospitalization of patients.

The six upper floors house the Oscar Johnson Institute, although certain teaching and research rooms have been provided on other floors. One floor has been assigned to research in the physiology and physics of the diseases of the eye, ear, nose and throat, and a well equipped machine shop for making fine precision instruments required for all these researches will be maintained on this floor. A glass blowing room is also provided. Another floor will offer facilities for special and experimental pathology and three floors will be devoted to research in chemistry and bacteriology. A roof garden has been provided for the staff and an outdoor sun parlor for patients. Jamieson & Spearl were architects for the building and the Woermann

Construction Company was general contractor, both of St. Louis.

The building is one unit of a \$20,000,000 expansion program for Barnes Hospital, which is associated with the Washington University School of Medicine. The Rand-Johnson memorial building for the department of surgery, an 8-story structure costing \$800,000, is another completed unit of the group. Wilbur T. Trueblood and Hugo K. Graf were architects for this structure and the James Black Masonry & Contracting Co., general contractors, also of St. Louis.

\$3,000,000 Senate Office Building Extension

Washington, D. C.—Contract is expected to be awarded about the middle of July for construction of the First street wing, architectural treatment of the C street side embracing a marble colonnade, and for landscaping the court of the Senate office building here. Funds available amount to \$3,079,350. Wyeth & Sullivan, Washington, are the architects. The project is under the supervision of David Lynn, Architect of the Capitol.

\$7,000,000 Railroad Construction

San Angelo, Tex.—Construction has started on new rail lines from Fredericksburg to Brady and from Eden to San Angelo, as a step in the development of plans of the Southern Pacific Lines to connect the Plains country with a direct line to the Gulf at Corpus Christi. The project is being handled by the Gulf and West Texas Railroad, a Southern Pacific property, and construction is under the direct supervision of H. M. Lull, executive vice-president of the Southern Pacific at Houston. The new road will be without grade crossings, thereby eliminating the hazard of fast trains at state highways. Contract for the initial grade separation structure, which will probably be built on a highway running north from Fredericksburg to Brady, has been awarded to the Monarch Engineering Co., San Antonio. Another such structure will also be installed at another highway, but contract has not yet been awarded. The entire project will cost from \$6,000,000 to \$7,000,000, it is said. Thirty miles of track between Leon Springs and Fredericksburg Junction are being rebuilt on a par with the new trunk-line construction, and it is understood that the Fredericksburg & Northern Railroad, from Fredericksburg Junction, on the San Antonio-Aransas Pass line, to Fredericksburg, will also be rebuilt.

Final Contract Let for Texas Panhandle to Chicago Gas Line

Amarillo, Tex.—The Continental Construction Co., Kansas City, Mo., has awarded contract to Ford, Bacon & Davis, Inc., New York, to build the seventh and last section of its pipe line from the Texas Panhandle to Chicago, a distance of 950 miles. This section will cover 155 miles, extending from Rock Island to Joliet, Ill., the contract calling for its completion on or before July 1 and providing a bonus to the contractors for each day deducted from the 90 days allotted for construction and a penalty against them for each day over the allotted time. Because of the time allotment, it is understood that a large amount of equipment will be used on the job, including approximately 100 tractors, trucks and ditching machines to transport materials and place in position 45,000 to 50,000 tons of steel pipe and fittings. A sub-contract has been awarded to the Parkhill Truck Co., Inc., Tulsa, Okla., for stringing the pipe and fittings. Ford, Bacon & Davis, Inc., were previously awarded contract for a 140-mile section of the line in Kansas. The Rock Island section will be of 24-inch pipe, the standard size used throughout the line, and will cross the Fox River and the Illinois-Mississippi drainage canal, connecting at Joliet with the Chicago Belt Distribution system. A large number of farm drains will be removed and replaced along the route. When completed the line will serve some 50 cities and towns in the territory it traverses from large gas reserves, the property of 9 utility and oil companies which formulated plans for the project. These companies include the Cities Service Company, Standard Oil Company of New Jersey, Insull & Son, Inc., Texas Corporation, Columbian Carbon Company, Skelly Oil Company, Phillips Petroleum Company, Southwestern Development Company and the United Carbon Company.

Will Use Freeport Sulphur

Freeport, Tex.—Negotiations have been completed between the Vanadium Corporation of America, New York, and the Freeport Texas Company, also of New York, with sulphur refining operations here, whereby the latter will furnish the Vanadium company a sulphur supply for use in the treatment of titanium. The Vanadium company recently opened a new plant for the development of titanium which is expected to be in full operation by the end of the current month.

LETTERS FROM OUR READERS

Farm Independence

New York City.

Editor Manufacturers Record:

For some years, farming has been more and more unprofitable to a very large proportion of the families on farms, but this is not due to the farms and it is not true that farming is unprofitable. The trouble lies with the families that live on the farms. The farms that have been profitable and the families that have got ahead are those that farmed with their heads, not with their feet.

The chief trouble with the unprofitable farm is the specialist or one-crop farmer, the fellow who raises nothing but cotton or nothing but wheat, and this is a development of the last 50 years. In the early days, almost every farmer was self-supporting. It was the first business of the farmer to feed and clothe his family. Whatever he sold after that was his surplus. Nobody complained that farming was unprofitable in those days. The farms were isolated and there was a degree of loneliness in farm life that nobody in these days of automobiles, radios, telephones can imagine. The chief trouble with the folks who lived on farms and flocked to the cities is the character of the stories that are published about a boy or girl who lived on a farm and went to the city and "made good." They would probably have made just as good if they had stayed on the farm.

Boys and girls in the cities, as well as on the farms, should be taught that it is far better to remain independent and develop any kind of a business of their own, rather than to become a wage-earner or a salaried person and to work for somebody else, no matter how big the wage or salary may be. The person who works for himself and who develops his own business never has to worry about losing a job, and this is a thing which ought to be taught to young people no matter where they come from. If this is held up before them as the ideal, there will be none of this flocking to cities or the studios or the stage in an effort to do something that is utterly beyond reach of the average boy or girl. Success means doing that for which you are best fitted.

GUY M. WALKER.

"Wage Theory Fallacious"

Memphis, Tenn.

Editor Manufacturers Record:

When costs of living, costs of building material, etc., are down to rock bottom—in many cases, for instance, 25 per cent off—why maintain the high freight rates? In order to reduce freight rates, the largest item to cut is wages. Ninety per cent of the employes on the railroads are not skilled mechanics, nor does their

work require a great amount of "science."

If railroad wages were reduced, it would have a beneficial effect on business. There would be more freight to haul, requiring more men to handle it. The railroads at present rates cannot compete with trucks even with store door pickup.

The theory of some economists "to maintain high wages to buy more goods" is fallacious in a time like this.

Another reduction the railroads are entitled to is in taxes. They are paying too much. Something should be done soon. Does not the Interstate Commerce Commission know the situation outside Washington?

E. L. MEADERS.

"Union Labor"

McIntosh, Fla.

Editor Manufacturers Record:

I was much gratified to read your editorial on "Organized Selfishness Retarding Business Recovery." You made a driving statement when you said that "high wages do not make prosperity, but prosperity makes high wages."

Union labor is more selfish than any line of big business. Labor must have its "pound of flesh," even though others starve. Should mechanics cut their wage in half, they would have enough to get bread and milk and other necessities, and buildings could be erected at reasonable costs and thousands of men be given work at once. Buildings could be erected that the working men could buy or rent at lower prices and still give the builder a fair return on his investment.

Union labor is not sacrosanct. Why should it not bear its part of the depression? How many of the leaders in labor unions have offered to allow a cut in their salaries?

S. H. GAITSKILL.

Jute and Cotton

Shreveport, La.

Editor Manufacturers Record:

There was imported into the United States free of duty, in 1930, \$150,000,000 worth of jute and jute products. Had cotton been used instead of jute, it would have consumed, at the present price of cotton, 3,333,333 bales of cotton. Just think for one moment what effect this would have on the cotton market.

If the cotton producers were allowed to use their own product, instead of being forced to use Great Britain's pauper grass, there would not be any carry-over.

A member of the United States Senate informed me, several months ago, that the jute trust had "the best legal talent in Washington that money could secure." No wonder we cannot have a duty on jute and jute products.

T. H. THURMOND.

Japan Interested in Highway

Equipment

Office of Commercial Attache,
American Embassy,

Tokyo.

Tokyo, Japan.

Editor Manufacturers Record:

Your annual Highway Review number, January 8, contained a great deal of interesting and valuable information. There is much activity in Japan at the present time in regard to transportation and highway developments.

The I. G. R. a short time ago formed a new highway transportation section, which is investigating all such matters. The highway division of the Home Office also is giving this matter considerable attention, in view of the development of motor truck and bus transportation in Japan.

Private firms and organizations also are taking this up in increasing numbers and it is very valuable to this office to be able to supply them with such information as was contained in your annual review.

We shall be glad to have you supply anything further of interest that may be available, as we hope to assist in developing a market in Japan for American machinery, roadbuilding material and automotive equipment.

HALLECK A. BUTTS,
Commercial Attache.

Of Value in Brazil

United States

Department of Commerce

Bureau of Foreign and Domestic
Commerce

Office of Trade Commissioner,
Sao Paulo, Brazil.

Editor Manufacturers Record:

We have come upon several articles of extreme local timeliness in the recent highway number of the MANUFACTURERS RECORD. I refer particularly to the article by Mr. Rice on gasoline tax diversion and another by Mr. Upham on the status of the highway industry.

In view of the fact that the Brazilian federal and state governments are reducing automobile license fees and substituting a tax on gasoline, funds from which are supposed to be ear-marked for highway construction and maintenance, we plan to arrange for your magazine to circulate among officials of the Sao Paulo state departments of Finance and Public Works.

Officials connected with highway construction should also profit by the photographs on page 60, illustrating methods of eliminating left-hand turns at highway intersections.

We are glad that this interesting magazine is available to us.

DAVID S. GREEN,
Trade Commissioner.

IRON, STEEL AND METAL MARKET

Lessened Activity in Steel

Pittsburgh, April 20—[Special.]—Steel activity is slipping only a trifle from week to week, but the trend such as it is seems to be continuous; buying starting the decrease about a month ago, while it took only a short time for this to be reflected in the rate of production. The March average in steel ingot production was 54.74 per cent of capacity, the rate at the close of the month being a trifle under that, while the rate last week was about 52 per cent.

In point of time, the decrease follows seasonal precedent very closely, it being the usual thing for March to be the high month while July is regularly the low month. In an ordinary or typical year the decrease March to July would be 15 to 25 per cent, but the chances seem to be there will be less decrease this year, through buyers being conservative and slow to act, leaving more business to be done later. Some observers think there is quite a chance of an upward reaction, but generally speaking the idea is that there will be nothing important until the autumn increase, which has come regularly every year except when general business turned for the worse. Usually the autumn peak is under the spring peak but the order seems likely to be reversed this year.

Of the various customers of the steel industry, the structural fabricating trade is doing the best, outside of tin plate, which is a law to itself. Even excluding the two big jobs, requiring long for completion, Radio City and Pennsylvania Railroad electrification, fabricated structural steel lettings so far this year have run a little ahead of the same period last year. Of such steel as is being made, a much larger percentage is going into this outlet than in 1928 or 1929. New projects are coming out all the time involving heavier tonnages than the actual lettings recorded. There is a striking contrast with dwelling house construction and work on the farms.

Among the poorest of the steel trade's customers is the automobile industry. Production there has been increasing only very slowly. In point of number it makes a poor showing and in point of steel consumption a still poorer showing as production is mainly of two light cars.

Line pipe presents a confused picture. Some projects developed long ago, and even in November pipe mills were asked for prices on some lines. Since then more and more projects have been coming up, but actual orders have been scant, partic-

ularly in the last few weeks. Possibly if the bankers began loosening up at all there would be a sudden rush. It is stated definitely that financing has been arranged for a \$7,000,000 natural gas line from the Pan Handle of Texas to Fort Worth, for the Shamrock Natural Gas Company, a subsidiary of the Shamrock Oil & Gas Company, to involve 245 miles of 18-inch pipe, 35,000 to 40,000 tons. Arrangements with the city have to be made before work can be started. Tubular goods business generally—in standard pipe, oil country goods, boiler tubes, etc., is very slack, having had but slight improvement since the first of the year.

Production of tin plate is now approaching its seasonal height. Prospects are that this year's domestic consumption will about equal that of last year, when there was a mild drop from the record made in 1929. Exports have been light since last November and are likely to stay so.

Finished steel prices present rather a confused picture. In bars, shapes, plates and wire products advances were announced last month but buyers even down to the smaller buyers are well covered. In sheets there has been more or less weakening for a month past, the whole market being off somewhat. There are rumors of shading in strip prices, long steady. Recently oil country tubular goods were reduced 5 per cent by an addition to the trade discounts. A curious thing is the wide divergence in prices among the different products, a few representing substantial profits, others about an even break and others actual losses. The degree or character of competition varies from product to product.

No Material Change in Pig Iron Situation

Birmingham, Ala., April 20—[Special.]—While melters of pig iron indicate no change of policy as to method of purchasing, the numerous small-lot orders are aggregating well, everything considered. Unfilled tonnage books of the furnace interests call for a much greater tonnage than is being purchased. Production is showing improvement. Thirteen blast furnaces are making iron, eight on foundry, four on basic and one on special brand. The basic production is a little in excess of requirements here. Steel companies have been using furnaces in the manufacture of foundry iron

and have been in on the open market from time to time.

Base price of pig iron is still firm, though low as compared to a year or so ago. Twelve to thirteen dollars, No. 2 foundry, is stated as price in the home territory. Not much iron is moving to other sections and this carries a f. o. b. furnace base of \$11.

The steady melters of the district are still the cast iron pipe manufacturers, pressure pipe makers. These interests have intimated active operation of shops through the second quarter and lettings in sight warrant the belief there will be active production through the year. No doubt is expressed, after surveying the start made and prospects for the remaining eight months, that production of 1931 will exceed that of the year previous. The trend for larger diameter size pipe is still noticeable and some of the larger lettings recently were for the big pipe.

Machine shops and foundries of the district report business still being received and the aggregate taking on proportions with prospects of a favorable summer.

The steel mart is unchanged in volume and activity. Ingot production is steady, with 16 out of 23 open hearth furnaces in operation. Demand for plate and sheet, reported improving recently, is still holding up well. Wire and wire products have been moving some lately though not to a big impetus. The Ensley Works of the Tennessee Coal, Iron & Railroad Company holds up the average started in January, no new orders for rail having been received recently. There is still hope that before the present order book has been cleared off, considerable tonnage will be placed. Railroads, however, give no intimation of any big projects in the way of relaying rail or new construction. All development work in steel circles is being pushed.

John W. Platten, chairman of the board, and George Burpee, consultant engineer of the Gulf States Steel Company, both of New York, have been in the Birmingham district inspecting properties of the company. Since Mr. Platten's last visit, the company built new mills and did other expansion work on which nearly \$10,000,000 was spent. Mr. Burpee remained in the district several days and general understanding is that upon turn of conditions in general business further development in the company will be undertaken.

The coal industry is lagging, production with the coming of warm weather still going down. Coke remains unchanged, the independent producers mov-

ing their output steadily. Scrap iron and steel also is unchanged.

Portland cement interests in the Birmingham district, six mills, are increasing production. While it is stated that this is seasonal, the numerous orders placed in the past few weeks for use on road building projects, and other business in sight with construction work in general warrants active operation. Keen competition for business is reported.

PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$12.00 to \$13.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$12.50 to \$13.50; iron of 2.75 to 3.25 per cent silicon, \$13.00 to \$14.00; iron of 3.25 to 3.75 per cent silicon, \$14.50 to \$15.00.

OLD MATERIAL

Steel rails	\$10.00 to \$11.50
Steel axles	15.00 to 16.00
Iron axles	15.00 to 15.50
Heavy melting steel.....	9.50 to 11.00
No. 1 cast	10.00 to 10.50
Stove plate	8.50 to 9.00
No. 1 R. R. wrought.....	8.50 to 9.00
Car wheels	10.00 to 10.50
Tramcar wheels	10.50 to 11.00
Machine shop turnings.....	6.50 to 7.00
Cast-iron borings	6.50 to 7.00
Cast-iron borings, (Chem.)..	12.50 to 13.00
Rails for re-rolling.....	10.25 to 10.75

Zinc and Tin Show Declines in Price

New York, April 20—[Special.]—Zinc has stood out conspicuously among the metals because of its weakness. The price of slab zinc has fallen to 3.70c per pound, East St. Louis, the bottom level since 1901. The price of zinc concentrates has fallen to \$23 per ton in the tri-State district of Oklahoma, Missouri and Kansas as against a bottom level of \$20 in 1921, which had been the low point for this century.

The price of tin broke at the middle of the week to under 25 cents per pound which is the bottom point for this year, though reached once or twice before. Antimony has sold as low as 6 $\frac{3}{4}$ c per pound, duty paid, a new low for 1931. Lead has been holding steady but demand is very quiet. Copper showed a slight burst of strength and activity early in the week though became duller during the second half. By Thursday sales were being made at 9 $\frac{1}{4}$ c as against the official price of 10 cents.

A more pessimistic feeling in the steel industry has contributed considerably to declines among the non-ferrous metals. Steel operations are down to 51 per cent of capacity as against 57 per cent at the peak. Certain forms of steel are weak in price and general buying has become rather light. On Wednesday the New York stock market reached some new lows for the year, U. S. Steel for instance dropping to the lowest quotation since 1928.

Most economists on the current situation, however, state that the present wave of depression is still more a matter

of sentiment than of actual statistical facts. Automobile production continues to gain and building activities are brisk, at least judging by the large awards of structural steel.

The price of silver which has been frequently hard hit by depression in the metals at other times has been advancing during the past week, generally selling at 28 to 29 cents per ounce. Quicksilver is also a bit firmer, being minimum at \$102 per flask of 76 pounds.

The most constructive news pertaining to the metals was in the field of lead. The world producers in session at London have agreed to cut production 15 per cent, after a long series of meetings. Another meeting is scheduled to be held in London today at which final details for the scheme will be perfected. There were representatives present from Canada, Australia, Spain, Mexico and Belgium. The United States is not a party to the agreement because of the tariff against lead, the anti-trust laws and the fact that American lead is invariably higher in price than lead in other countries.

Export sales of copper have been relatively better than domestic business. Sales abroad during the first half of the month have been 10,000 tons, the same rate of business as during March. March export sales, however, were only one-third those of February. On Monday and Tuesday export sales were about 2000 tons each, but fell off later. The reason for the better business at the start of the week was the firming of the domestic price to 10 cents after sales had been made the preceding week at 9 $\frac{1}{2}$ cents. Foreign copper consumers perhaps thought that American prices might go higher and hence bought more freely than heretofore.

Copper statistics for March revealed a

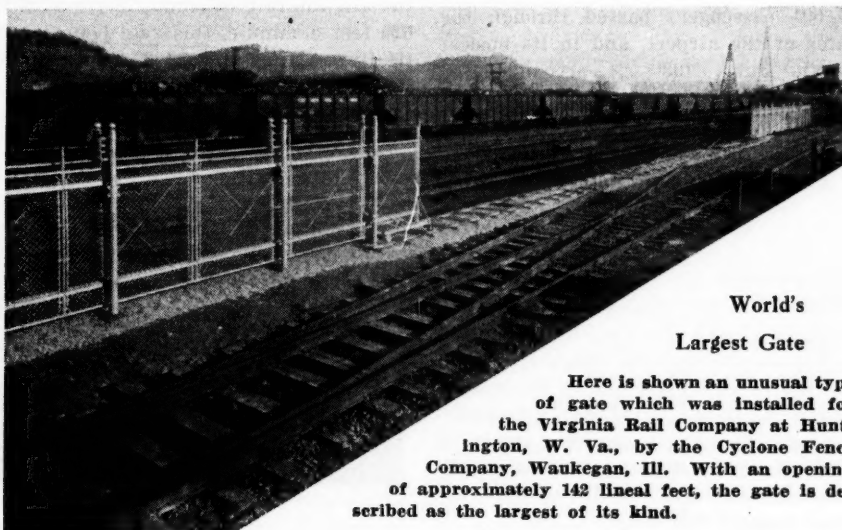
decline of nearly 14,000 tons in total surplus stocks, the fifth consecutive monthly decline. Moreover this was the sharpest drop so far. Daily production of refined copper was the lowest since 1921. Despite the favorable statistical showing there are rumors in copper circles that producers will try to effect further cuts in production. The coming to New York for a conference by M. Ferdinand Pisart, managing director of "Katanga," the principal African producing company, has been postponed to May 4 at which time further curtailment may be planned.

The continual declines in the price of zinc have so far failed to stimulate buying. The price is now \$5 per ton below what had been the bottom level upon several occasions in 1930. The decline is attributed to overproduction but this is caused by the desire of zinc producers to keep their labor employed. Whereas in many cases overproduction is laid to selfishness, the opposite probably holds true in the case of zinc.

Though the scheme to restrict tin production is by now in full effect, with quotas of production assigned to the various producing countries, tin prices do not reflect this better state of affairs. One trouble is the fact that stocks in warehouses and at consumers' plants are the largest for many years. Stocks in warehouses of the United Kingdom are the largest in history.

Tin plate production in the United States is now 85 per cent of capacity and a pace of 90 per cent is expected soon. That means of course increased consumption of tin and is the most cheerful news the tin trade has heard this year.

Stocks of pig lead in the United States increased 7600 tons during March. Lead is the only major metal whose supplies continue to gain.



World's
Largest Gate

Here is shown an unusual type of gate which was installed for the Virginia Rail Company at Huntington, W. Va., by the Cyclone Fence Company, Waukegan, Ill. With an opening of approximately 142 lineal feet, the gate is described as the largest of its kind.

AVIATION, AIRPORTS AND AIRWAYS

National Aeronautic Meeting

A large number of technical papers will be read and discussed at the National Aeronautics Meeting in Baltimore May 12-14, under the auspices of the Engineers Club. Temple M. Joyce, vice-president of the B-J Aircraft Corporation, Dundalk, Md., will present a paper on Airplane Design in Relation to Tactical Requirements, having reference to special requirements of the Army and Navy, as introduced by combat, bombing, scouting and transport duties, and W. D. Tipton will address the meeting on Modern Flight Training. Frederick Schauss will discuss Engineering Essentials for Airport Enclosures and W. Watters Pagon, Baltimore, will present a paper on Some Thoughts on Stresses in Rigid Airships from a Different Point of View. J. Henry Reisner, Hagerstown, Md., will discuss the Design and Possibilities of the Light Airplane and G. T. Lampton, also of Hagerstown, will present a paper on Magnesium and Hollow Steel Propellers. Lieut. H. E. Haven, of the engineering experiment station, Annapolis, Md., will discuss his researches on Corrosion-Fatigue of Streamline Wire of Aircraft, and Lieutenant-Commander D. C. Ramsey, member of the advisory board for the aeronautic meeting, will read a paper on the Aviation Course at the Naval Academy.

Tulsa Airport Busy

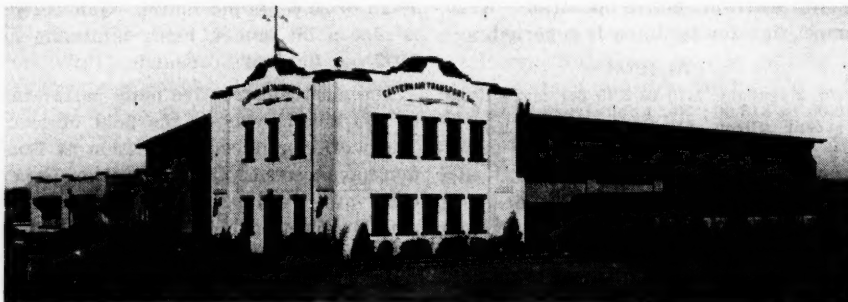
Tulsa, Okla.—The Tulsa municipal airport is one of the busiest in the world, according to aerial traffic records, more than 60,000 planes having come and gone from its runways since the airport was established less than three years ago. On its busiest single day in 1930, a total of 691 passengers passed through the gates of the airport, and in its busiest month, June, 1930, it accommodated more than 11,000 passengers.

\$882,000 Bids on Flying Field

Buildings

Shreveport, La.—Contracts to erect officers' quarters and barracks at the Barksdale Field here have been awarded to Ashton Glassell, Inc., Shreveport, according to an announcement by Captain George E. Lamb, Constructing Quartermaster. This firm submitted a bid of \$462,457 to construct 42 company officers' quarters and \$419,350 to construct three barrack buildings.

Passenger Terminal and Maintenance Base



The Eastern Air Transport, Inc., employs approximately 75 persons at its Atlanta base, located at Candler Field. The building was erected at a cost of about \$100,000, and houses 15 planes. The hangar is one of the largest in the South and includes complete shops and plane overhaul facilities.

Curtiss-Wright "Junior" Plane

The Curtiss-Wright "Junior," a new light weight, tandem-seated monoplane of low price, is being produced at Robertson, Mo., by the Curtiss-Wright Airplane Co., a subsidiary of the Curtiss-Wright Corporation, New York. Powered with a 40-horsepower Szekely three-cylinder, radial, air-cooled engine, the top speed is 80 miles and the cruising speed 70 miles an hour. Sufficient gasoline is provided for three hours of cruising flight. An outstanding feature is the ability of the plane to get into and out of small, rough fields; the take-off is short, and once in the air, the rate of climb fully loaded is 625 feet a minute, this rate being practically constant up to 3000 feet. Above that altitude it falls off very slowly, say the producers.

The plane lands at 28 miles an hour; shock is absorbed by the air wheels which are mounted on a one-piece, heat-treated cantilever undercarriage made of chrome-molybdenum alloy tubing, attached to the fuselage which also is of chrome-molybdenum alloy steel tubing. Oxyacetylene outfits are used for welding. The entire fuselage structure is strongly designed, six struts forming the foundation for the motor mount which provides a firm foundation for the wings secured to the center section by nickel-steel bolts. Wings are of spruce. Total weight of the plane is 510 pounds.

The firm is now preparing jigs to handle production of the component parts in considerable volume and plans to complete a group of 50 about April 30.

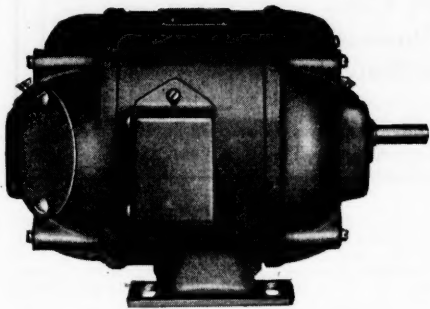


A Tandem-Seated Monoplane Weighing 510 Pounds

NEW AND IMPROVED EQUIPMENT

Fractional Horsepower Motors

The Century Electric Company, St. Louis, Mo., announces a new line of fractional horsepower motors with mounting dimensions interchangeable—in repulsion start induction single phase, split phase,

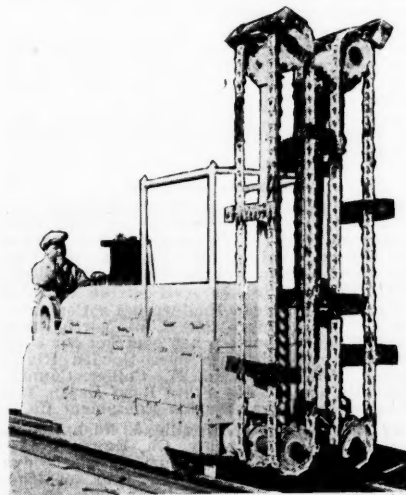


Mounting Dimensions Are Interchangeable

single phase, squirrel cage induction three phase and DC types. Bearing brackets of this design are said to offer unusual protection against falling objects, dirt or dripping water, the motors having rolled steel frames, welded steel feet, slotted for belt adjustment, and bearings machined from phosphor bronze castings. The motors are equipped with the Century wool yarn system of lubrication.

Machine for Handling Acid Phosphate

Collaborating with F. M. Wever, superintendent of the Anderson Fertilizer Company, the Anderson Machine and Foundry Company, Anderson, S. C., has developed a machine, on which Mr. Wever has secured patents, for use in

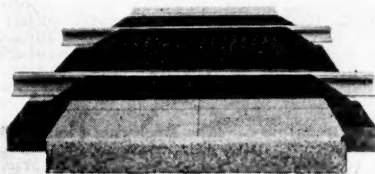


Wever Den Excavator

acid phosphate handling. The machine is self-contained and motor driven and is designed to remove acid phosphate from the "den," a chamber which is an essential part of acid phosphate plants and into which the product flows in semi-liquid state. The machine travels on a special track into the den. The operator starts the machine forward under its own power with the arms vertical, the latter carrying revolving steel cutters which shave off the phosphate and deliver it to a slot between the tracks, through which the material drops to a conveyor or hopper leading to the elevators. After the machine has advanced into the den to the depth of the cutter, the operator shifts a lever and the arms gradually flatten out to their maximum reach.

To Protect Pedestrians

Joseph T. Ryerson & Son, Inc., Chicago, announce an all-steel safety crossing for pedestrians. It is flanged under the ball of the rails and is constructed in three units, consisting of a center and



Ryerson Safety Crossing for Railroad Intersections

two outer sections. When the outer sections are placed in position they form a span level with the rails and the sidewalk. Channels and zebs which make up the under part of the crossing rest on the ties and are firmly spiked, holding the crossing in place and eliminating danger of derailments, it is said.

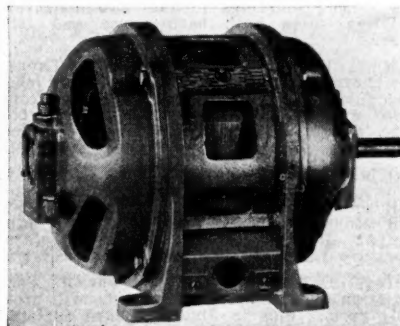
Control to Speed Welding

With a new type of control, recently announced by the General Electric Company, Schenectady, N. Y., intermittent line and spot welding with interruptions as high as 1000 per minute and higher are said to be possible. The new control uses thyatron tubes instead of contactors and consists essentially of two parts, a series transformer and a control panel, the former being mounted conveniently near the latter. The device is expected

to offer its greatest service on intermittent line or spot welding operations which are a part of continuous, straight-line production where speed is an important factor.

Induction Motor

An innovation in motor design is incorporated in a new W-frame type CS squirrel cage induction motor manufactured by the Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa. The different parts of the motor are entirely separate units, thus permitting the company to keep only standardized parts in stock, to be able to build, on short notice, motors for specific applications. The new design makes maintenance simpler and less expensive, as damaged electrical parts may be replaced without replacing or rewinding the motor. The stator core containing its winding is pressed into the motor frame, and when it becomes necessary to replace a damaged winding, the old core and its winding is pressed out as a unit by means of an ordinary arbor press and a new "pre-wound" core pressed in; then,



Has Separate Mechanical and Electrical Parts

after the motor is reassembled, it is ready for use, the operation usually requiring about an hour. Like the stator core, the rotor is a complete unit and both may be supplied as such for built-in motor or repair purposes. Separate frame construction makes it possible to supply one of a number of different types of frames, and with the various parts, many applications of the motor are possible.

Edward P. Morse, an attorney of Chicago, Ill., representing bondholders of the Whitehall Hotel at Palm Beach, Fla., has purchased the hotel at public auction for a consideration of \$1,500,000.

CONSTRUCTION DEPARTMENT

and

NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

Airports, Airplane Plants, Etc.

Ala., Birmingham—Fromhold Const. Co., 1768 Tuscaloosa Ave., Birmingham, has contract at \$21,000 for conc. aprons around buildings at airport. 4-16

Fla., Ocala—Airport Bd. of Control, Leonard Todd, Chmn., plans erection hangar at Taylor Field.

Fla., Titusville—U. S. Dept. of Commerce, A. H. Hadfield, reported, plans improvements to airport, fill in low places, etc.

La., Shreveport—R. C. Nelson, Bossier City, and E. L. McCain, 2204 Fairfield Ave., Shreveport, reported, has contract for conditioning 100 acres at landing field Barksdale Field; W. H. Hodges, Elm Grove, Shreveport, for labor and equipment for preparation of 400 acres. 4-9

Md., Frederick—Wm. Cannon, low bidder on construction of buildings at airport of conc. block and erection of frame buildings for First Regiment, Maryland Natl. Guard Air Corp.; buildings include administration building, mess hall, bath house and tent bases.

Miss., Laurel—Bradley Bros. Co., Laurel, has contract at \$12,900, for hangar and office at municipal airport; hangar 80x100 ft., combined with administration space 2000 sq. ft.; conc. floors; corrugated roof; L. W. Duffee, Archt. 4-16

Okla., Oklahoma City—City, George F. Brown, City Engr., has plans complete and will soon award contract for 4-story, brick and stone administration building at municipal airport; cost \$50,000; architectural work by Langbein & Johnston. 4-19

Tex., Dallas—City, M. R. Fewell, Sec., Aviation and Manufacturers Dept., will probably receive bids in June for hard surfaced runways for Love Field airport; will acquire additional acreage; install flood lights. 4-16

Tex., Del Rio—Magnolia Petroleum Co., Dallas, reported, plans constructing airport equipped for night landings; build hangars of sufficient capacity to accommodate 8 planes.

Tex., Fort Worth—City has improvements under way at Meacham Field airport; contract recently let for leveling field and construction of 4 runways, ranging in length from 3500 to 4000 ft.; will remove knoll and fill in gully; all work being done under specifications prepared by A. P. Talliaferro, Jr., of Airport Division, U. S. Div. of Commerce; grading and runways to be complete June 1; amount involved in excess of \$119,000; construction work under way on repair shop and factory building for Texas Aero Corp.; building is being erected by city and leased to Texas Aero Corp.; other work to be undertaken includes improved boundary lights, beacon and floodlights; plans for further improvements include construction of 6 ft. safety wire fence, re-routing of State highway, making possible addition of 60 acre tract to the present field of 500 acres; erect administration building, plans prepared; total cost of improvements \$700,000. 3-19

Tex., Randolph Field—U. S. Gov., A. W. Parker, Const. Q. M., receives bids soon, date not set, for 200,000 square yards asphalt paving in hangars and shop area and 20 miles paving in buildings area.

Bridges, Culverts and Viaducts

Proposed Construction

Ala., Gadsden—See Roads, Streets and Paving.

Arkansas—State Highway Comsn. receives bids for 9 bridges. See Roads, Streets and Paving.

D. C., Washington—See Roads, Streets and Paving.

Georgia—State Highway Bd. receives bids for 16 bridges. See Roads, Streets and Paving.

*Kentucky—State Highway Dept. has low bids for 2 bridges. See Roads, Streets and Paving.

Ky., Owensboro—Spencer County Bridge Comsn., A. H. Kennedy, Brown Trust Co., Rockport, Ind., opens bids May 11 for Owensboro-Rockport bridge over Ohio River; approx. 2400 ft. long from end of approach on Kentucky side to end of last span on Indiana side, 4 piers in river and one on Kentucky side, rock taking place of pier on other side, 5 spans, 150, 379, 879, 379 and 100 ft., suspension, cable type.

La., Bogalusa—State Highway Comsn., H. B. Henderlite, Highway Engr., Baton Rouge, has revised application approved for bridge over Bogue Chitto River near here; bridge will be located approx. 1060 ft. downstream from original site.

Maryland—State Roads Comsn., L. H. Steuart, Sec., Baltimore, opens bids Apr. 28 for all electrical work necessary for power line and lighting system in bridge now under construction over Nanticoke River, Vienna.

Md., Baltimore—City, Nathan L. Smith, Highways Engr., and Pennsylvania R. R., W. B. Wood, Pennsylvania Station, Engr. in Charge of Baltimore Improvements, completing plans, call for bids soon for several rein. conc. and struc. steel bridges: Underpass, Warwick Ave., \$148,000, and bridge, Garrison Lane, \$188,000, plans by W. B. Wood; bridge, Lafayette Ave., \$150,000, Whitman, Requardt & Smith, Engr. for City, Baltimore Trust Bldg.; bridge, Loney Lane, \$250,000, H. G. Perring, Engr. for City; railroad also drawing plans for bridges, Gay, Biddle and Preston Sts. 3-26

Miss., Magnolia—Pike County Supvrs., Chas. E. Brumfield, Clk., open bids May 4 for 3 bridges: bridge in First Dist.; bridge near old Simmonsville, First Dist., and P. P. Powell bridge, Second Dist.

Oklahoma—State Highway Comsn., Sam R. Hawkes, Chmn., Oklahoma City, rebuild 80-ft. span, U. S. Highway 77, over Cimarron River, 2 mi. north of Guthrie.

SOUTH CAROLINA—State Highway Dept., Ben M. Sawyer, Ch. Commr., Columbia has low bids for 14 bridges in following counties: Beaufort—4 bridges, Route 33, SP 760-A, Florida Bridge & Construction Co., 49 Lorna Doone Blvd., Orlando, Fla., \$13,193; Chesterfield—overhead bridge over S. A. L. Ry., FAP 291-B Extension, Kiker &

Yount, Reldsville, N. C., \$12,050; Newell Contracting Co., Wallace Bldg., Greenville, S. C., same amount;

Darlingen—bridge over McIntosh Creek, Route 30, SP 757-B, Palmer Construction Co., Florence, \$5719;

Kershaw—4 bridges, Route 97, SP 758, Kiker & Yount, \$23,769;

Lee—overhead bridge, Route 30, over S. A. L. Ry., FAP 238, Hooks & Mendenhall, Builders Bldg., Charlotte, N. C., \$8701;

Union—overhead bridge, U. S. Route 176, over S. A. L. Ry., FAP 82 Reop., Benj. F. Ramseur, Blacksburg, S. C., \$6687;

Williamsburg—bridge over Johnson's Creek, Route 26, FAP 296 No. 1, J. S. Bowlers, Whiteville, N. C., \$10,789; raising existing bridge and building extension over Black River and Black River Swamp, Route 26, SP 741, Geo. A. Thomason & Co., Greenwood, \$22,687. 4-2

Tenn., Danville—Louisville & Nashville R. R. Co., W. H. Courtenay, Ch. Engr., Louisville, Ky., advises plans not yet prepared and it will probably be some months before plans are ready for bids for bridge over Tennessee River. 4-16

Texas—State Highway Comsn., G. G. Wickline, Bridge Engr., Austin, probably open bids Apr. 30 for creosoted timber trestle bridges over Sulphur River and White Oak Creeks, Bowie and Morris Counties, SAP932-D.

Tex., San Antonio—Bexar County, Wm. A. Wurzbach, Judge, opens bids May 11 for reconstructing portion of Gemblar bridge over Salado Creek, County Commrs. Precinct No. 4; W. C. Goodman, County Engr.

Virginia—State Dept. of Highways has low bids for 2 bridges. See Construction News—Roads, Streets and Paving.

Va., Norfolk—City, I. Walke Truxtun, City Mgr., instructed Director of Public Works to begin immediate survey and prepare plans for new bridge over Lafayette River to replace present wooden bridge, Hampton Blvd. north of Public Health Service Hospital; draw alternate plans on drawbridge and for straight vehicular and pedestrian bridge without car tracks; construction not to start for some time.

Va., Richmond—City, R. Keith Compton, Dir. Public Works, opens bids May 4 for slab type rein. conc. bridge on conc. piles, 66 ft. long, 24-ft. roadway with cantilever sidewalks.

West Virginia—State Roads Comsn. has low bids for 2 bridges. See Roads, Streets and Paving.

Contracts Awarded

D. C., Washington—McClintic-Marshall Co., Pittsburgh, Pa., has contract for 1467 tons structural steel for Connecticut Ave. bridge over Klingle Valley; W. P. Thurston Co., Inc., Gen. Contr., 301 S. Fourth St., Richmond, Va. 4-2

Florida—American Engineering & Construction Co., A. B. Curry, 258 S. W. North River Drive, Miami, reported, has contract for completing 2 conc. bridges over Gordon River, Naples, FAP 75, Road 27, Collier County, originally awarded by State Road Dept., Tallahassee, to Central Station Equipment Co.

Ky., Henderson—Louisville & Nashville R. R. Co., W. H. Courtenay, Ch. Engr., Louisville, let contract to Missouri Valley Bridge & Iron Co., Leavenworth, Kans., for substructure for \$6,500,000 bridge over Ohio River; start construction May 1. 4-9

Mississippi—State Highway Comsn., Gus A. Draper, Engr., Jackson, let contract for 2 bridges: Bridge over Leaf River, Currie & Corley, Raleigh, Miss.; bridge over Butta-hatchie River, Royce Kershaw, Inc., Mobile, Ala. 4-16

Mo., Webster Groves—McClintic-Marshall Co., Pittsburgh, Pa., has contract for 250 tons struc. steel for girder span of Missouri Pacific R. R. Co., E. A. Hadley, Ch. Engr., St. Louis.

Tex., Fort Worth—Tarrant County, W. E. Yancey, Aud., W. Stevens, County Engr., let contract to Austin Bridge Co., 1813 Clarence St., Dallas, for steel girder bridge over Trinity River, Albright road, 195 ft., 3 spans, 60, 75 and 80 ft., steel handrail, conc. floors, 20 ft. wide, \$22,000. 2-19

Canning and Packing Plants

Ark., Rogers—Crocker Packing Co., of Royal Heights, Joplin, Mo., Clyde Hathaway, Local Mgr., reported, plans packing plant.

Fla., Largo—Citrus City Growers Assn., J. S. Taylor, Jr., Mgr., reported, rebuild burned portion of packing house.

Va., Montrose—Stratford Packing Co., Inc., capital \$20,000, chartered; Charles E. Stuart.

Clayworking Plants

North Carolina—B. Mifflin Hood Co., Daisy, Tenn., advises plan improvements to recently acquired plants at Norwood, Gulf and Monroe, N. C., manufacture roofing tile. 4-19

Tex., Mineral Wells—Mineral Wells Clay Products Co., incorporated; A. E. Eaton, C. E. Turner.

Coal Mines and Coke Ovens

Ala., Sayreton—Montgomery Coal Washing & Mfg. Co., Eighth Ave. and 40th St., Birmingham, recently closed contract with Republic Steel Corp., Republic Bldg., Youngstown, O., for single unit, Type "S" Model "31" coal washer for their plant at Sayreton; contract includes washer, settling tanks, elevators, bins and conveyors, also erection and installation jig to be used in reclaiming coal lost in refuse from present washer. 4-9

W. Va., Bradshaw—Pond Creek Pocahontas Co., McDowell, reported, plans opening new mine at mouth of State Creek.

Concrete and Cement Plants

Okla., Muskogee—Southwest Clay Products Co., capital \$300,000, incorporated; Malcolm E. Rosser, Commercial Natl. Bank Bldg.

Tex., Dallas—Penniman Concrete Pipe Co., capital \$30,000, incorporated; Bruner R. Penniman, 6146 Bryan Parkway.

Va., Norfolk—Concrete Construction Co., capital \$50,000, incorporated; W. B. Griffin, Clamond Apt.

Cotton Compresses and Gins

Mo., Kansas City—Southland Cottonseed Products Co., First and Troost Sts., reported, rebuild burned portion of plant. 4-16

Tex., Blue Ridge—Farmers Gin Co., Inc., chartered; R. E. Phillips, E. H. Pendleton.

Tex., Corpus Christi—Chas. F. Runck, 103 Katherine Court, reported, has contract for 1 story, 140x30 ft. building for Aransas Compress Co., Extension Unit No. 3. 4-9

Tex., Snyder—Trice Gin Co., incorporated; A. H. Trice, Fred Trice.

Cottonseed-Oil Mills

Miss., Indianola—Sunflower Oil Mill Co., reported, plans installing machinery for crushing soy bean seed for manufacture of oil.

Drainage, Dredging and Irrigation

Ala., Montgomery—U. S. Engr. Office let contract to Atlantic, Gulf & Pacific Co., 15 Park Row, New York, for dredging Pensacola Bay and Mobile Bay, at \$61,700. 4-9

D. C., Washington—Office of Executive Officer, Arlington Memorial Bridge Comsn., Navy Bldg., Washington, D. C., opens bids Apr. 29 for constructing bridge plaza drainage on plaza just west of Lincoln Memorial; includes 54 lin. ft. c. i. drain, diam. 8-in. to 18-in., 8 standard manholes and 20 catch basins; all pipe to be laid in reinf. conc. bed.

Louisiana—Bd. of State Engrs., New Orleans Court Bldg., New Orleans, let contract to Midland Construction Co., Clarksdale, Miss., for 53,000 cu. yd., at 9.15 cents. 4-9

Miss., Marks—Panola-Quitman Drainage Dist., Lomax B. Lamb, Sec., opens bids May 7 for constructing dam across Tallahatchie River, about 6 mi. southwest of Batesville; dam will be part of west levee of drainage district.

Tex., Brownsville—Cameron County Water Control and Improvement Dist. No. 19 formed by Comms. Court; probably vote soon on bonds for \$1,000,000 irrigation system.

Tex., Brownsville—Cameron County Water Improvement Dist. No. 3, P. W. Samuels, Pres., opens bids Apr. 25 for installing irrigation works, Arroyo Garden district, 6000 acres, \$500,000 with equipment; H. B. Livingston, Engr., San Benito.

Tex., Fort Worth—City Council directed Engineering Dept. to prepare recommendation as to where cut-off should be made to shorten course of Trinity River by cutting L-shaped bend of stream in area south of Riverside; involves new bridge over Trinity River at Retta St. and location of route of proposed airline highway.

Tenn., Memphis—U. S. Engr., McCall Bldg., has apparent low bid of \$910,000 from Dravo Contracting Co., Neville Island, Pittsburgh, Pa., for 2 mammoth, self-propelled dredges to be used in Memphis Engineer Dist.

Tex., Port Isabel—U. S. Engr. Office, Galveston, making surveys for Brownsville-Port Isabel port project, to cost \$5,000,000 to \$6,000,000; reported, will let contract immediately after completion of surveys; channel to Brownsville will end in a turning basin 4 mi. from city, coming direct from Brazos Santiago Pass, 25 ft. deep.

Tex., Texas City—U. S. Engr. Office, Galveston, has low bid from Atlantic, Gulf & Pacific Co., 15 Park Row, New York, at \$53,265, for dredging in extension of harbor at Texas City, Texas channel from Galveston harbor to Texas City, 795,000 cu. yd. 4-9

Va., Hopewell—City has offer from Delaware Dredging Co., 139 S. Third St., Philadelphia, Pa., at \$9800, for dredging channel 7 ft. deep, 50 ft. wide across river from Epes Island to ship channel nears outh side of James River.

Va., Richmond—City, Dept. of Public Works, will complete plans and submit to War Dept., Washington, in fall for deep water terminal 3 mi. below city locks; includes turning Basin, 400 ft. wide, 600 ft. long, for larger type of ocean steamers, docks, storage yards, railroad and highway facilities and railroad bridge over James River.

Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Alabama—Alabama Power Co., Birmingham, reported, making survey for rebuilding company's high tension 110,000 volt transmission line between Albertville and Gadsden; line runs from Gadsden by way of Huntsville to Sheffield connecting with Muscle Shoals hydro electric plant; furnishes Huntsville and cities in Tennessee Valley with power from Coosa River stations; triple capacity.

D. C., Washington—Catalino & Pecora, Eastern Ave. and Kresson St., Baltimore, Md., reported, low bidder at \$317,187 for improvements U. S. Capitol power plant. 3-26

La., Baton Rouge—Baton Rouge Electric Co., 329 Florida St., offering \$1,000,000 first mortgage, 5 per cent gold bonds. Series B, through Stone & Webster & Blodgett, Inc., 120 Broadway, New York.

La., New Orleans—Sewerage and Water Bd. receives bids April 30 for furnishing and erecting complete, Algiers River Station, at DeArmas and River Sts.; 1 story; 30x30 ft.; reinf. conc. and brick; work includes excavation, back filling, grading and removing spoil; conc. steel bars; struc. steel; slate roof; conduits for lighting system; c. i. piping, etc.

Md., Centerville—Legislature approved \$70,000 bonds for electric light plant. 2-12

Md., St. Michaels—Legislature approved \$18,000 electric light bonds. 4-9

Miss., Canton—City, reported, considering rebuilding burned light, power plant and water works. 4-16

N. C., Nags Head—Roanoke Utilities Co., Manteo, reported, plans constructing electric lighting line from Roanoke Island power plant, cross Roanoke Sound Bridge to Nags Head.

Okla., Nowata—City voted negatively on granting electric franchise to Public Service Co. of Oklahoma, Tulsa; will vote April 28 on granting franchise to Independent Power & Light Co., Charles W. Mason, Pres. 3-26

Texas—Fegles Construction Co., Ltd., Minneapolis, Minn., has contract for construction of Hamilton development project on Colorado River for Emery, Peck & Rockwood Development Co., 818 Scarborough Bldg., Austin; Fargo Engineering Co., Conslt. Engrs., 120 W. Michigan Ave., Jackson, Mich.; estimated cost of project \$6,000,000. 1-22

Tex., Galveston—Houston Lighting and Power Co., Houston, reported, negotiating with Galveston Electric Co., for purchase of electric light and power business.

Va., Quantico—Bureau of Yards and Docks, Washington, D. C., reported, let contract to M. H. Pagenhardt Co., 4100 Cathedral Ave., Washington, at \$108,540, for construction of boiler plant at Marine Barracks. 3-26

Foundry and Machine Plants

Ark., Texarkana—Carpenter Welding & Machinery Co., 1622 County Ave., reported, plans rebuilding burned welding plant at 202 Jackson Ave.

Mo., St. Louis—General Engineering and Mfg. Co., J. Schreiber, Pres., 1519 S. Tenth St., reported, acquired shaper manufacturing business of R. A. Kelly Co., Xenia, O.; will move patterns and equipment to St. Louis and install in plant of General Engineering and Mfg. Co., 1523 S. 10th St.

N. C., Gastonia—Crocker Machine & Foundry Co., reported, reorganized; George B. Crocker, Pres., J. Robt. Craig, Sec.; manufacture textile machinery.

Garages and Filling Stations

D. C., Washington—Bennett Parsons and Frost, Conslt. Engrs., 80 E. Jackson Blvd., Chicago, Ill., has drawings and specifications for terrace, fountain and garage for U. S. Government in progress and will put out for bids in approximately 2 weeks; date of opening bids not set; structure will be underground, reinf. conc. garage for about 270 cars with a monumental terrace and fountain of granite on the roof at ground level. 4-16

Fla., Miami—B. F. Goodrich Rubber Co., Akron, O., reported, will soon announce location of site for service station; estimated cost \$50,000. 11-27

Fla., McClenny—Q. T. Milton construct 1 story garage, 39x24 ft.; day labor.

Ky., Lexington—Refiners Oil Co., 769 E. Third St., erect gasoline filling station E. Main St.

Ga., Atlanta—Wellborn Hope, 198 Ponce de Leon Ave., N. E., reported, acquired 16 filling stations now being operated by Shell Petroleum Co., Fair and Delta Pl., operated under name of Wellborn Hope, Inc.; probably construct additional filling stations.

Ky., Lexington—Mrs. Dennis Mulligan plans remodeling building Broadway and Fourth St. for filling station.

La., New Orleans—T. A. Pittman Co., Canal Bank Bldg., has contract for 1 story brick garage, N. Rampart and St. Louis Sts., for Bisso Tow Boat Co., United Fruit Bldg.

Md., Baltimore—Central Mortgage Co., 810-A Equitable Bldg., let contract to A. Goodman, 9000 Whittier Ave., for 1 story, brick garage, 1202-04 E. Preston St.

Md., Baltimore—Ralph Simmers, 4547 Harford Rd., has contract for garage, Calvert St. near Read, for Calvert Garage Co.; 3 story, brick, reinf. conc., 79x123 ft.; 125 car capacity. 4-16

Md., Baltimore—Lacchi Construction Co., Munsey Bldg., reported, has contract for filling station 2850 Liberty Heights Ave., for American Oil Co.; T. J. O'Connell, Constr. Engr., American Bldg.; brick and stucco; 1 story.

Md., Baltimore—M. A. Long & Co., 10 W. Chase St., low bidder for garage 1005 St. Paul St., for Guilford Realty Co., 3330 St. Paul St. 4-9

Md., Baltimore—Frank Winer, National Store Fixture Co., 229 President St., erect gas service station 948 Warner St.; 1 story, brick.

Md., Salisbury—Wm. S. Moore, erect 2 story, brick garage Cor. Poplar Hill Ave. and Old Water St.

Mo., Springfield—F. D. Harris, Div. Maintenance Engr., for Highway Dept., reported, has plans for garage Weller Ave., Atlantic St. and Frisco tracks; contract to be let in summer; cost \$20,000.

Mo., St. Louis—Moss Construction Co., 1218 Olive St., reported, has contract for auto sales room; 1 story, brick, 47x140 ft.; J. Hal Lyon, Archt., Arcade Bldg.

Mo., St. Louis—Tanker Gas Co., Inc., N. T. Wiedemann, Pres., Minneapolis, Minn., leased 3 acres at S. W. Cor. Page Blvd. and Wabash R. R. Tracks; construct 10,000 gal. gasoline tank car station; cost \$20,000.

Mo., St. Louis—Joyner Motor, Inc., chartered; Fred Lohmann, 5736 Etzel St.

N. C., Charlotte—Haskell Motor Co., capital \$50,000, incorporated; J. T. Johnson, Aberdeen.

N. C., Charlotte—Pettit Motor Co., J. B. Pettit, Pres., 708 S. Tryon St., erect \$30,000 garage building, E. Fourth St.; 1 story, 144x199 ft., brick; Louis H. Asburg, Archt., 1514 E. Fourth St.; Home Real Estate and Guaranty Co., Contr., 219 N. Tryon St.

Tex., Fort Worth—Waggoner Refining Co., 900 block N. Main St., construct \$17,000 tile and stucco warehouse, garage and office.

Va., Winchester—Winchester Motors Corp., capital \$25,000, incorporated; B. Beverley Wright.

Gas and Oil Enterprises

D. C., Washington—United Engineers & Constructors, 112 N. Broad St., Philadelphia, Pa., reported, has contract to furnish and install 2060 ft. of 12-in. welded steel main from west station of Washington Gas Light Co. to East abutment of K St. Bridge; also for delivering and installing 940 ft. of 12-in. main from East abutment of K St. Bridge to 29th and M Sts. for Georgetown Gas Light Co., Washington.

Fla., Orlando—Hutchinson Tractor Equipment Co., incorporated; W. A. Hutchinson, 111 W. Princeton St.

Ga., Atlanta—Atlanta Gas Light Co., offering \$4,000,000 2 yr. 4½ per cent. gold notes, through Harris, Forbes & Co.; issuance subject to approval of Georgia Public Service Comsn.

Ky., Ashland—Ashland Construction Co., Ashland, will probably receive contract for construction of 18 miles pipe line in Floyd and Pike counties for United Fuel Gas Co., Charleston, W. Va., subsidiary of Columbia Gas & Electric Co., 61 Broadway, New York; contract will involve about \$100,000, and is portion of line to be built through to Baltimore, Md., from Eastern Kentucky and Southern West Virginia oil and gas fields. 4-9

Ky., Hopkinsville—Kentucky-Tennessee Light & Power Co., 120 Wall St., New York, reported, has natural gas franchise; will lay pipes and mains.

Md., Cumberland—Maryland Natural Gas Utilities Corp., 32 N. Lee St., incorporated; Wm. B. Robb, Fuller Barnard, Jr.

Mo., Kansas City—Western Drilling & Equipment Co., capital \$200,000, incorporated; Wm. Grieves, 636 W. 61st St.; Harry Darling.

Mo., St. Louis—Allied Petroleum Corp., incorporated; Wm. J. Becker, Boatmans Bank Bldg.

Md., Texas—Refining Corp., incorporated; Lawton G. Brown, Penn. Hotel, Towson; refine used oil; has plant; install new equipment.

Okl., Sapulpa—Moyen Oil Co., incorporated; W. G. Clark, J. L. Fuller.

Okl., Tulsa—Payne Oil Corp., capital \$50,000, incorporated; W. E. Rogers, 1536 N. Denver St.

Tenn., Memphis—Oakley's Gas & Oil Co., 910 Third Ave., reported, erect 4 service stations; 1 story, brick, 20x20 ft., cost \$16,000.

Tex., Amarillo—City, W. N. Durham, City Mgr., receives bids April 28 for furnishing of complete distributing system for natural gas supply for entire city. See Want Section—Bids Asked. 4-16

Tex., Austin—Johnson Mattocks Oil & Gas Development Co., capital \$50,000, incorporated; O. G. Hanseler, Post Road

Tex., Breckenridge—City voted negatively on proposal for city operation of gas distribution plant, owned by Texas-Louisiana Power Co., Electric Bldg., Fort Worth.

Tex., Brownwood—West Texas Oil and Gas Co., capital \$24,000, incorporated; D. C. Sneller.

Tex., Cross Plains—City voted \$20,000 gas plant bonds.

Tex., Dallas—Simms Oil Co., Magnolia Bldg., Edw. T. Moore, Pres., reported, construct 130 mile pipe line from Lathrop oil pool in Gregg County to Dallas; 6 or 8-in. pipe; cost \$1,000,000; will probably enlarge 4500 bbl. refinery.

Tex., Dallas—R. E. Buckley Oil Co. incorporated; R. E. Buckley, 615 S. Ewing St.

Tex., Fort Worth—Sinclair Refining Co., Sinclair Bldg., Tulsa, Okla., reported, plans expansion program at refinery, increase capacity to 15,000 bbls. daily.

Tex., Houston—Wilson Oil Co., capital \$100,000, incorporated; E. M. Wilson, Cotton Bldg.

Tex., Houston—Deep Dome Oil Co. incorporated; H. C. Cockburn, Second Natl. Bank Bldg.

Tex., Longview—Fredonia Oil Co., capital \$25,000, incorporated; L. A. Sessums, H. W. Norton.

Tex., Longview—McMillan Refining Co., Borger, reported, construct 7000 bbl. topping plant and loading rack.

Tex., Longview—Ball Ziegler Oil Co., Inc., capital \$50,000, incorporated; W. D. Ball, J. M. Gray.

Tex., San Antonio—Hellenic Oil Co. incorporated; Nick Marosis, Majestic Bldg.

Texas—Sinclair Oil Co., Sinclair Bldg., Tulsa, Okla., reported, plans constructing pipe line from East Texas oil fields, linking with line of Prairie Pipe Line System at Mexia. 2-19

Tex., Wichita Falls—Panhandle Refining Co., Culbertson Bldg., reported, construct topping refinery in Young County.

Texas—Yount-Lee Oil Co., Inc., San Jacinto Life Bldg., Beaumont, advises are not contemplating construction of pipe line from Gregg County to the coast as recently reported. 3-12

Virginia—United Engineers & Constructors, Inc., 112 N. Broad St., Philadelphia, Pa., reported, has contract to furnish and install approximately 550 ¾-in. services in Alexandria; to furnish and install approximately 6950 ft. of 3-in. steel mains in and about Falls Church, Va., for Rosslyn Gas Co., Rosslyn, Va.; to furnish and install 7100 ft. of 4-in. and 27,700 ft. of 3-in. welded steel mains in Del Ray, Alexandria, for Alexandria gas Co.

Va., Richmond—Swain Contracting Co., Hopewell, reported, has contract at \$45,000 for dock for Gulf Refining Co., 701 E. Light St. 2-5

Ice and Cold-Storage Plants

Fla., Miami—Swift & Co., Packers & Exch. Aves., Chicago, Ill., and 48 N. W. 11th St., Miami, reported, constructing refrigerating plant and cooler; cost \$40,000; work by company's forces.

Ga., Cordele—Sawyer Coal & Ice Co., E. J. Sawyer, Pres., 277 Walnut St., Macon, reported, has plans by C. T. Baker, Engr., Walton Bldg., Atlanta, for \$70,000 ice plant; 1 story; conc. foundations; brick walls; tar and gravel roof.

Miss., Clarksdale—Crystal Ice Co., let contract to Carliss Well Supply Co., 116 S. Front St., Memphis, Tenn., for Cook deep well turbine for the plant.

Miss., Leland—Leland Ice and Storage Co., let contract to Carliss Well Supply Co., 116 S. Front St., Memphis, Tenn., for Cook strainer and Cook deep well turbine pump for ice plant.

Mo., Kansas City—R. S. Blome Co., First National Bank Bldg., Chicago, Ill., reported, has contract for ice manufacturing and ear icing plant to be built in Leeds by American Refrigerator Transit Co., 13th St.; cost \$300,000 with machinery; Mountain Ice Co., 6611 Euclid Ave., Cleveland, O., will lease and operate. 4-2

Tex., Crystal City—Shippers Co-Operative Ice Co., J. L. Price, Pres., reported, plans construction of 150 ton ice plant; cost \$150,000. 4-9

Iron and Steel Plants

Md., Baltimore—Dietrich Brothers, 220 E. Pleasant St., have postponed for about 2 or 3 months letting sub-contracts of fabrication shop addition, 28th and Reese Sts.; 1 story, 200x405 ft.; sub-contracts will include conc. piling, capping, conc. floor work, tile walls, etc. 3-12

Land Development

Ark., Little Rock—John Nolen, City Planner, Harvard Square, Cambridge, Mass., planning development of Allsopp Park; 140 acres; clearing of debris and underground under

way; construct walks, bridle paths, playgrounds, tennis courts, etc.; E. E. Stansberry, City Engr.

Fla., Coconut Grove—Herman Fruit Growers, Inc., chartered; F. L. Herman, W. F. Herman.

Fla., Jacksonville—American Elsgas Corp., chartered; C. M. Weller, 1312 Willow Branch St.

Fla., Jacksonville—Buck & Buck, Inc., chartered; J. S. Buck, Lakeshore.

Fla., Miami Beach—Ocean View Property, Inc., capital \$250,000, incorporated; C. T. Hoffman, Bank of Bay Biscayne Bldg., Miami.

Fla., Melbourne—Florida-Michigan Lands, Inc., chartered; F. B. Wallace, J. N. Rankin.

Fla., Orlando—Orlando-Tampa Properties, Inc., chartered; R. F. Maguire, 800 Euclid St.

Fla., St. Petersburg—Crescent Enterprises, Inc., chartered; C. C. Laughner, 136 10th Ave., N. E.

Ky., Louisville—Title Realty Co., capital \$25,000, incorporated; Charles A. Haerberle, Wm. B. Hunter.

La., Elizabeth—R. Bruce Brough, 2221 Broadway, San Antonio, Tex., reported, plans development of 20,000-acre pecan orchard.

Md., Woodlawn, Baltimore—John E. Richards Bldg. Co., Inc., Dogwood Rd., incorporated; John E. Richards, Woodlawn; Oliver P. Seipp, Baltimore.

Mo., Pattonville—Pattonville Realty Co., capital \$25,000, incorporated; Charles C. Branneky, Harry H. Branneky.

Mo., St. Louis—J. & M. Realty Co., capital \$20,000, incorporated; Junius Chapman, University City; Joseph Boxerman, Central Natl. Bank Bldg., St. Louis.

Mo., St. Louis—Stifel-Thomas Co., capital \$50,000, incorporated; N. M. Buren, 4511 Idaho St.

Mo., St. Louis—Walter M. Smith, 7320 Tulane St., James P. Jamieson and associates developing 76 acres on north side of Ladue Rd. for subdivision.

N. C., Charlotte—Marlboro Homes, Inc., chartered; Wm. J. Spain, 2132 Avondale Ave.

Lumber Enterprises

Fla., Jacksonville—James D. Lacey & Co., Barnett Bldg., Forest Mgr., for J. C. Penney-Gwinn Corp., 135 Riverside Ave., reported, completed arrangements with Putnam Hall Timber Corp., and Watkins & Hall Turpentine Co., both Putnam Hall, Fla., to purchase timber and turpentine rights on south portion of J. C. Penney-Gwinn Corp. holdings in Clay County; J. L. Turner of Putnam Hall, will have charge of cutting operations for Putnam Hall Timber Corp. and G. W. Hall, of Palatka, for Watkins & Hall, Inc.

La., Shreveport—Bollinger-Gain-Yay Co., capital \$40,000, incorporated; W. M. Levy, Court House.

Mining

Ark., Little Rock—Big Rock Stone & Material Co., foot of Ashley St., erecting plant foot of Conway St.; cost \$10,000.

Ga., Aubrey—Manganese Corp. of America, 314 Williams-Oliver Bldg., Atlanta, acquired Georgia Manganese & Iron Co.'s property in Bartow county. 4-16

Miss., Wiggins—Hercules Sulphur Exploration Syndicate, H. C. Fine, Pres., reported, leased 10,000 acres, drill for sulphur.

Mo., Neck—H. & H. Mining Co., capital \$50,000, incorporated; Harry H. Hawkins, Neck; M. R. Lively, Webb City.

Tex., San Marcos—San Marcos Gravel Co., Inc., capital \$50,000, incorporated; Dan S. Hartson, J. B. Frazier.

Va., Alexandria—Amelia Mines, Inc., capital \$50,000, incorporated; T. Arthur Smith, 1330 G St., N. W., Washington, D. C.

Miscellaneous Construction

D. C., Washington—District Commrs., Capt. H. C. Whitehurst, Ch. Engr., Highway Dept., approved plan for pedestrian underpass, 24th St. and Benning road, N. E., in connection with colored school and park development in that area.

Fla., Miami—W. T. Grant, 2475 S. Bayshore Dr., let contract to Rodney Miller, 2618 Alhambra Circle, Coral Gables, Miami, for \$10,000 swimming pool; 25x47 ft., rein. conc. tile scum gutter, tile bridge, wrought-iron rail, spring board and ladder, centrifugal pump; Paist & Steward, Archt., 834 Ingraham Bldg.

La., Lake Charles—Lake Charles Harbor & Terminal Dist., A. A. Nelson, Director of Port, advises regarding status of plans for \$700,000 port improvements, Board has en-

gaged Elmer E. Shutts as engineer, and within 3 or 4 weeks plans should be ready for distribution.

La., New Orleans—Port of Commrs. of Port of New Orleans, New Orleans Court Bldg., let contract to Concrete Construction Co., Inc., 1903 Gallier St., at \$76,215, for conc. slabs, footings and incidental work on levee at Bienville St.; let contract to Jones & Laughlin Steel Corp., Ross St., Pittsburgh, Pa., for furnishing and erecting structural steel framing for city delivery shed and office at Bienville St. wharf, at \$27,105. 4-9

Md., Baltimore—City, Port Development Comsn., James H. Preston, Chmn., started on plans for restoring sunken portion of terminal and pier floor at Port Covington; remove asphalt blocks and fill with concrete; \$20,000; J. E. Greiner Co., 1201 St. Paul St., Const. Engr. 4-9

Md., Curtis Bay, Baltimore—Treasury Dept., U. S. Coast Guard, Washington, D. C., rejected bids, will take new bids later for 231-ft. hoist house and steel sheet pile bulkhead, 160 ft. long. 3-12

Miss., Kosciusko—Attala County Supvrs., G. J. Thornton, Chancery Clk., open bids May 7 for levee, Zipha Creek, Kosciusko-Vaiden Highway; to be constructed under supervision of engineer to be furnished by State Highway Dept., Jackson. 4-9

Miss., Marks—See Drainage, Dredging and Irrigation.

Mo., Kansas City—City, Robt. W. Waddell, City Engr., considering following bids for state line wharf and rehabilitation of Main St. wharf: Louis Breitag & Son Construction Co., Rwy. Exch. Bldg., \$162,742, for constructing wharfhouses and escalator towers at state line site; Brosnahan Bros., City Bank Bldg., \$47,727, constructing loading dock at state line site, and \$53,250, rehabilitation of Main St. wharfhouse with 180-ft. conc. dock supported by conc. piers, and escalator tower. 2-26

Mo., Kansas City—U. S. Engr. Office, Postal Telegraph Bldg., let contract to Massman Construction Co., Kansas City, Kans., at \$40,922, for 1500 lin. ft. pile clump dike.

Mo., Kansas City—Kansas City Southern Ry. Co., W. N. Dermus, Gen. Mgr., advises regarding plans for addition to grain elevator, some consideration has been given to increasing capacity but as yet nothing definite has been decided upon. 4-9

Tex., Blackwell—Blackwell Mill & Elevator Co., Dave Moxon, Mgr., let contract to Burrell Engineering & Construction Co., 1 N. Canal St., Chicago, Ill., for \$100,000, 500,000-bu. conc. storage elevator; 14 large tanks, 22 smaller tanks, tallest of which will be 100 ft., with 20-ft. workhouse on top; storage tanks will cover area 60x100 ft.; 16,000 cu. yd. of excavation for foundations, 150 carloads rock, 75 carloads sand and about 6000 bbl. cement required.

Va., Richmond—City, R. Keith Compton, Dir. Public Works, opens bids May 4 for constructing wharves, consisting of 220 lin. ft. of a gravity type conc. wall with alternate of rein. conc. platform type on conc. piles; also 300 lin. ft. creosoted timber wharf.

West Virginia—Wheeling Structural Steel Co., Wheeling, has contract for 250 tons struc. steel for Marmet lock, Great Kanawha River, for U. S. Engr. Office, Huntington; General Contracting Corp., Columbia Bldg., Pittsburgh, Pa., Gen. Contr. 3-5

Miscellaneous Enterprises

Ark., Little Rock—Big Rock Stone and Material Co., foot of Ashley St., John C. Eakin, Sales Mgr., construct lime putty plant at Garland Ave. and Spring St.; plant will effect hydration of raw lime and aging of resultant product to produce lime putty utilized in plaster construction work; daily capacity 5 carloads.

Ark., McGehee—City will vote on bonds for purchase of 600 gal. pumper for fire department; and additional fire hose.

D. C., Washington—Stoffet & Tillotson, Wesley Bldg., Philadelphia, has contract at \$294,887 for construction of National Hydraulic Laboratory Building; Michigan Valve and Foundry Co., Detroit, Mich., reported, low bidder for sluice gates and wall castings; George K. Burgess, Director, Bureau of Standards, Dept. of Commerce. 4-16

Fla., Jacksonville—Kirtan Tag Co., incorporated; J. T. Kirtan, Lakeshore.

Fla., Miami—Landscape Construction Co., incorporated; L. Epstein, Security Bldg.

Fla., Miami—Miami Navigation Co., chartered; F. E. Bryant, Olympia Bldg.

Fla., Tavares—Associated Land Co., incorporated; R. P. Hamlin, M. J. Cassidy.

Georgia—J. J. Traylor of Augusta Creamery, Inc., 628 Ellis St., Augusta, reported, negotiating for purchase of plants of Augusta Creamery, Inc., Georgia-Carolina Dairy Products Co., 927 Walker St., Augusta Ice & Coal Co., 639 13th St., all Augusta; and Kinnett-Odom Co., Macon, owned by Foremost Dairy Products, Inc., 135 Riverside Ave., Jacksonville, Fla.

Ga., Savannah—Atlantic Creosoting Co., Inc., W. H. Labrot, Pres., Navy Yard Annex, Norfolk, Va., and Savannah Creosoting Co., Inc., Port Wentworth, Savannah, have recently co-ordinated and concentrated management and operations will henceforth be carried on in name of Atlantic Creosoting Co., operating 2 plants, Norfolk and Savannah; plans for future expansions and construction not yet definitely decided; are now overhauling plant in Savannah, will install additional machinery; Norfolk plant has purchased additional land, doing considerable track work, grading and cinderling; has completed construction of pole yard for manufacture of creosoted yellow pine poles. 4-16

Ga., Tifton—Imperial Tobacco Co., Ltd., Richmond, Va. (of Great Britain & Ireland), let contract to W. H. Spooner, McLeod-Oneal Bldg., at \$33,000, for construction of plant for stemming and redrying tobacco for export to England for manufacture; wing 42x127 ft., 30x204 ft. and 72x60 ft., basement 72x60 ft.; mill type; brick, conc. and wood; hardwood on decking floors; L. R. Kersey, Archt., Richmond, Va. Taylor Iron Works & Supply Co., Macon, Ga., has contract for struc. and misc. steel; I. D. Morgan & Sons, Tifton, for roofing and sheet metal work. 4-16

Ky., Fort Thomas—World Printing & Publishing Co., capital \$75,000, incorporated; B. L. Susong, Joseph Dressman.

Ky., Walton—Projectomatic Scoring Machine Co., incorporated; F. M. Walton, Sam W. Allen.

La., New Orleans—J. C. DeArmas, Engr., 109 N. Roberts St., completing plans and specifications for construction of 1-story, 100x240 ft. shed type bag factory to be erected Jefferson Davis Parkway and New Basin Canal for Hartman-Salmen Co., Inc.; to be occupied by Bates Valve Bag Co.; hollow tile exterior with conc. retaining walls and conc. foundations; asbestos roof; electric wiring, etc.; will soon ask for sub-bids. 4-16

Md., Baltimore—Hayden Chemical Co., 2113 N. Calvert St., incorporated; John B. Hayden, E. B. Mitchell.

Md., Brentwood—King Construction Co., Inc., chartered; John M. King, 1008 11th St., N. W., Washington, D. C.; Francis D. Dereemer, Brentwood.

Miss., Gulfport—Sea Coast Warehouse and Distributing Co., incorporated; R. L. Simpson, M. Simpson, Pooles.

Miss., Laurel—Masonite Corp., 111 W. Washington St., Chicago, Ill., reported, let contract to Ingalls Iron Works Co., 720 Fourth Ave., S., Birmingham, Ala., for 200 tons fab. struc. steel.

Miss., Natchez—W. G. Wetmore Construction Co., 867 E. Mississippi St., Jackson, has contract for plant for Mississippi Match Co.; cost about \$105,000; will install machinery about Aug. 1; N. W. Overstreet, Archt., Standard Life Bldg., Jackson. 3-19

Mo., Aurora—Juvenile Shoe Corp., reported, enlarge plant, erect addition; install sprinkler system in office and factory.

Mo., Kansas City—Fairmont Operating Co., incorporated; J. D. Cusenbary, Hydro, Okla.; operate amusement parks.

Mo., Iberia—Deering & Davidson, Inc., capital \$75,000, incorporated; Ed Deering, M. J. Davidson.

Mo., St. Louis—Missouri District Telegraph Co., 901 Chestnut St., reported, low bidder at \$147,862 for installing fire alarm equipment in St. Louis Training School, Isolation and Koch Hospitals.

Mo., St. Louis—Certified Cigar Corp., Paul Brown Bldg., incorporated; C. F. Graves, Frank Vesser.

Mo., St. Louis—St. Louis Meter & Pump Co., capital \$150,000, incorporated; C. C. Fredericks, 3745 Lindell Blvd.

Mo., St. Louis—Sun Electric Mfg. Co., E. J. Rauch, Pres., 2410 S. Fourth St., organized to manufacture health and professional equipment, including ultra violet ray lamps, electric bath cabinets and automotive coil testers.

Mo., St. Louis—Rolla Silver Fox Farm, Inc., 418 Olive St., chartered; Robt. LeNar, C. R. Rorbes.

Mo., St. Louis—St. Louis Specialty Mfg. Co., Robert Rust, Mgr., Missouri Theatre Bldg., has temporary building 4645 S. Grand Blvd. for manufacture of chemical preparation known as "Prevents-Runs," to prevent

runs in silk hose and silk and rayon garments.

N. C., Asheville—Southern Dairies, Inc., 60 M St., N. E., Washington, D. C., reported, received bids April 22 for remodeling plant, Patton Ave. and Clingman Ave.; 3 stories, brick, cement and steel, 40x80 ft., walls and floor of tile; install modern machinery; also install gravity system for distribution of milk; expend \$100,000; Ronald Greene, Archt., Oates Bldg.

N. C., Asheville—Pritchard Paint and Glass Co., capital \$100,000, incorporated; W. P. Thomson, 20 Providence Road, Charlotte.

N. C., Charlotte—Marlboro Homes, Inc., capital \$100,000, incorporated; Wm. J. Spain, 2132 Avondale Ave.

N. C., Charlotte—McNeil Paper Co., capital \$50,000, incorporated; S. L. Pardue, North Wilkesboro.

N. C., Durham—Johnson-Prevost Dry Cleaning Co., capital \$50,000, incorporated; H. T. Johnson, 108 Procter St.

N. C., Raleigh—Raleigh Building Corp., capital \$25,000, incorporated; J. M. Broughton, Citizens Bank Bldg.

Okla., Tulsa—Texas Co., Philtower Bldg., Tulsa, and Chrysler Bldg., New York City, reported, let contract to Patterson Steel Co., 801 N. Xanthus St., Tulsa, for 325 tons struc. shapes for chemical plant. 4-9

S. C., Spartanburg—Piedmont Shirt Co., 104 W. North St., Greenville, Sheppard Altzman, Pres., installing additional machines.

Tenn., Chattanooga—Henry Green, 1304 Alice St., and Thornwell Jacobs, Sr., reported, acquired Nu-Icy Bottling Co., 1290 McCallie Ave.; will remodel and operate.

Tenn., Memphis—Bankers Old Life Insurance Co., capital \$100,000, incorporated; Dr. Battle Malone, Goodwyn Ins. Bldg.

Tenn., Memphis—Peaslee-Gaulbert Corp., 413 W. Main St., Louisville, Ky., establish factory branch at United Warehouse & Terminal Bldg.

Tex., Beaumont—Beaumont Coca Cola Bottling Co., 795 Main St., reported, receives bids May 10 for bottling plant; brick walls; stone trim; flat conc. roof; 130x42 with garage 39x34 ft.; 1 and 2 stories; Pringle & Smith, Norris Bldg., Archts., Atlanta, Ga.

Tenn., Murfreesboro—Rutherford County Creamery Co., reported, re-organize company and operate plant.

Tex., Dallas—Ford, Bacon & Davis Construction Co., Inc., formed as wholly owned subsidiary of Ford, Bacon & Davis, Inc., 39 Broadway, New York; new company organized under laws of New York will handle contract construction activities for entire organization; Edgar G. Hill, Pres.; Henry F. Storck, Sec.; main office 39 Broadway, New York; field office Dallas, Tex., under management of Wm. Von Phul, Jr.; projects now under construction by Ford, Bacon & Davis, Inc., include East Texas-Shreveport oil pipe line for Arkansas Natural Gas Co., Shreveport, La.; Eastern Gas Co.'s development El Paso, Tex., to Douglas, Ariz., and last link of pipe line from Texas Panhandle to Chicago, Ill., for Continental Construction Co., Professional Bldg., Kansas City, Mo.

Tex., Donna—Valley Dredging Co., capital \$30,000, incorporated; L. S. Tedford, W. H. Kilgore.

Tex., Houston—Schwartz Street Holding Co., capital \$25,000, incorporated; James T. Ewing, Odd Fellows Temple.

Tex., Houston—Sealy Mattress Co., 300 National St., increased capital, \$150,000 to \$200,000.

Tex., Kilgore—Sour Lake Machine and Supply Co., capital \$15,000, incorporated; John R. Everitt, S. D. Ewing.

Tex., Longview—George W. List of List Laundry and Dry Cleaners of Pine Bluff and El Dorado, Ark., construct laundry.

Tex., Pharr—Briggs Darby Construction Co., capital \$33,000, incorporated; R. N. Briggs, R. H. Klossner.

Tex., Paris—Paris Dr. Pepper Bottling Co. erect addition for carbonated beverages; install new equipment; General Refrigeration Co., Beloit, Wisconsin, has contract for equipment.

Tex., San Antonio—John T. Fentiman Trunk Co., 321 Alamo Plaza, increased capital to \$25,000.

Tex., Waco—Advertising Bulletin Corp. incorporated; O. B. Perot, Liberty Bank Bldg.

Va., Richmond—Old Dominion Tile and Marble Co., Inc., 111 Grace St., organized; W. H. Stovall, 3919 Hanover Ave., Richmond.

Va., Suffolk—Pine Forest Products Co., Inc., J. Eugene McKelvey, Pres., will have plant ready for operation in about 60 days; equipment includes a modern band saw mill; machinery, band saw, etc., being manufactured by Clark Bros. Co., Olean, N. Y.; mill will have a capacity for 40,000 ft. per 10 hr. day; have two 125 H. P. Erie City boilers; treating plant will have one 96x84 ft. cylinder, manufactured by Struthers-Wells Co., Warren, Pa.; pumps, compressors, etc., are of various makes, all purchased; treating cylinder will have capacity of 8,000 cu. ft. dry timber daily; most of which will be treated with zinc chloride.

Va., Winchester—H. J. Heinz Co., Pittsburgh, Pa., let general contract to Geo. F. Hazelwood, Howard St., Cumberland, Md., for generator building; brick and steel; 168x70 ft.; 1 story; conc. floors; conc. foundation; cost \$30,000 without furnishings and equipment; foundation now being poured; excavating and conc. work by general contractor; struc. steel, Pittsburgh Bridge & Iron Works, Fulton Bldg., Pittsburgh, Pa.; mill work, Glazie Bros., Winchester; roofing, Tri State Roofing Co., Uniontown, Pa.; limestone, H. A. Woolery & Son, Bloomington, Ind.; electrical, Northern Virginia Power Co., Winchester; contract for plumbing, masonry and sheet metal not let.

Motor Bus Lines and Terminals

Ark., Pine Bluff—L. F. Bellingrath, 1602 Cherry St., reported, plans erecting bus terminal, E. Baroque St.

Ky., Frankfort—Interstate Transp. Inc., 708 Walnut St., Cincinnati, O., applied to A. L. Henry, Commr. of Motor Transportation, for permission to operate bus line between St. Louis and Nashville by way of Henderson and Hopkinsville.

Railways

Ala., Mobile—Chicago, Burlington & Quincy R. R. Co., F. E. Williamson, Pres., Chicago, Ill., plans applying to Interstate Commerce Comsn., Washington, for permission to acquire majority interest in Gulf, Mobile & Northern R. R. Co., I. B. Tigrett, Pres., Mobile.

Md., Baltimore—Pennsylvania R. R., W. W. Atterbury, Pres., Philadelphia, Pa., authorized by Interstate Commerce Comsn., Washington, for permission to issue \$50,000,000 general mortgage 4½% gold bonds, Series D, and to sell them at not less than 94 and accrued interest; funds to be applied to cost of necessary additions, betterments and improvement.

Md., Baltimore—Pennsylvania R. R. Co., C. E. Walsh, Pur. Agt., 15 N. 32nd St., Philadelphia, Pa., opens bids Apr. 28 for Contracts 13-1931, cinders and slag ballast, and 14-1931, struc. steel.

Texas—Fort Worth & Denver Northern Ry., subsidiary of Chicago, Burlington & Quincy R. R. Co., A. W. Newton, Ch. Engr., Chicago, Ill., applied to Interstate Commerce Comsn., Washington, for permission to build 2 lines, 10.41 mi., Gray County; near LeFors 7 mi. north and point near Pampa to 3½ mi. north.

West Virginia—Norfolk & Western Ry. Co., W. P. Wiltsee, Ch. Engr., Roanoke, Va., authorized installation of Norfolk type coal hoist, inspection pit, water tank and pump at Devon, junction point for Big Sandy & Cumberland branch, now under construction between Devon, and Grundy, Va.

Railway Shops and Terminals

Tex., Ennis—Texas & New Orleans R. R. Co., Southern Pacific Lines in Texas and Louisiana, R. W. Barnes, Ch. Engr., Houston, erecting 10-stall extension and remodeling roundhouse; wood, heavy mill type, conc. floors, asbestos and protected metal roof; construction 20% complete; owner builds. 4-9

Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

ARKANSAS—State Highway Comsn., Dwight H. Blackwood, Chmn., Little Rock, opens bids Apr. 29 for 6 roads and 9 bridges. Searcy—2 bridges, 521 lin. ft. rein. conc. deck girder, Marshall-St. Joe road, FAP 279-D, State Highway 65, Sec. 5, Job No. 953, 1687 cu. yd. excavation, 1273 cu. yd. conc., 228,631 lb. rein. steel, 1056 lin. ft.

conc. railing for structures, 6003 lb. cast steel shoes; 5¼ mi. grading, draining, Marshall-St. Joe road, FAP 279-C, State Highway 65, Sec. 5, No. 950, 15,826 cu. yd. excavation, 51,635 lb. rein. steel, 1306 lin. ft. 24-in. rein. conc. pipe, 1152 sq. yd. rip rap (1 ft. thick);

Madison—257 lin. ft. struc. steel, treated timber bridge over War Eagle Creek, St. Paul-Huntsville road, State Highway 23, Sec. 5, No. 921, 2 50-ft. I-beam spans with treated timber pile bent approaches, 690 cu. yd. excavation, 21 M. ft. b. m. treated bridge timber, 880 lin. ft. treated piling cut-off, 26,700 lb. rein. steel, 56,500 lb. struc. steel in beam bridges;

Lawrence-Randolph—5 bridges, varying in length from 76 to 109 ft., deck girder, 4 on conc. pile bents, one on conc. abutments, approx. 460 lin. ft. rein. conc., Walnut Ridge-Pochontas and north to Maynard road, FAP 6 Reop. and 269-B, State Highway 67, Sections 19 and 20, Highway 79, Sec. 1, No. 10183, 717 cu. yd. excavation, 710 cu. yd. conc., 180,101 lb. rein. steel, 1738 lin. ft. precast conc. piling;

Pulaski—8 mi. crushed stone surfacing, North Little Rock-Faulkner County Line road, State Highway 5, Sec. 1, No. 6129, 10,392 cu. yd. crushed surface course, 300 cu. yd.;

Benton—9 mi. grading, draining, Rogers-North road, FAP 108 Reop., Sec. C, State Highway 62, Sec. 2, No. 490, 104,498 cu. yd. excavation, 31,669 lb. rein. steel, 1323 lin. ft. 24-in. rein. conc. pipe;

Monroe—5 mi. gravel, Roe-Clarendon road, State Highway 3, Sec. 13, No. 11048, 15,534 cu. yd. gravel surface course;

Prairie—4.5 mi. conc., DeValls Bluff-Brasfield road, FAP 185-D, State Highway 70, Sec. 16, No. 6123, 5413 cu. yd. pavement, 233,284 lb. rein. steel for pavement (fabric), 1373 lb. rein. steel;

Hot Spring—6 mi. grading, draining, conc. paving, Donaldson-Friendship road, FAP 271-D, State Highway 51, Sec. 3, No. 694, 15,380 cu. yd. excavation, 60,067 sq. yd. fine grading, subgrade and shoulders, 66,020 sq. yd. conc. pavement, 142,125 lb. rein. steel for pavement (fabric), 11,279 lb. rein. steel;

Hempstead—117 lin. ft. rein. conc. bridge over Missouri-Pacific R. R. tracks, Hope-Prencott road, FAP 32 Reop., No. 3173, deck girder, 40 ft. of earth embankment approaches, 1165 cu. yd. excavation, 634 cu. yd. conc., 14,210 lb. rein. steel.

D. C., Washington—Arlington Memorial Bridge Comsn., Office of Executive Officer, Navy Bldg., has low bid from Marye & Blankenship, Shawsville, Va., at \$21,892, for grading at west end of Arlington Memorial Bridge project. (See Bridges, Culverts and Viaducts, 4-9.)

Florida—State Road Dept., Robt. W. Bentley, Chmn., Tallahassee, plans improving State Road 140, city limits of Miami Beach to Broward County line.

GEORGIA—State Highway Bd., J. W. Barnett, Chmn., Atlanta, opens bids Apr. 30 for 13 roads and 16 bridges in following counties:

Montgomery-Wheeler—7.368 mi. paving, 3 bridges, Alamo-Lyons road, Glennwood to 2 mi. east of Mt. Vernon, FAP 145 Reop. 8 and 1089, SAP 8 and 1049, 102,222 cu. yd. excavation, 28,030 cu. yd. hydraulic settlement of fills, 24,244 lb. rein. steel, 87,383 sq. yd. plain cement conc. paving; quantities for bridges, 24,900 lb. rein. steel, 26,000 f. b. m. timber treated, 1260 sq. yd. rip rap;

Seminole-Early—11.4 mi. paving, Donaldsonville-Dothan, Ala., road, Donaldsonville to Georgia-Alabama line, FAP 480 and 456-wire mesh or resili-flex guard rail, 133,249 B, 15,126 cu. yd. excavation, 4135 lin. ft. sq. yd. sheet asphalt or asphalt binder, 2269 tons additional asphalt binder, 133,249 sq. yd. preparation of base;

Laurens—16.90 mi. grading, 3 bridge culverts, Dublin-Jeffersonville road, city limits of Dublin to Laurens-Wilkinson County line, FAP 470-A part 1, 233,056 cu. yd. excavation, 74,400 lb. rein. steel, 7500 cu. yd. selected material subgrade treatment;

Elbert—5.0 mi. paving, Athens-Elberton road, Elberton to Survey Station 199/29, FAP 372-B and 330 Reop., 38,097 cu. yd. excavation, 1189 lb. rein. steel, 2305 lin. ft. goad guard, 59,543 sq. yd. conc. paving, 13,377 lin. ft. raised edge curb;

Madison—6.34 mi. top soil, Athens-Elberton road, Comer to Carlton, FAP 483-A, 76,912 cu. yd. excavation, 2247 lb. rein. steel, 18,288 cu. yd. top soil surfacing;

Carroll—9.614 mi. paving, bridge, Carrollton to Villa road, Carrollton to 3.5 mi. from Villa Rica, FAP 248-A&B Reop., 8669 cu. yd. excavation, 27,000 cu. yd. jetting fills, 3275 road guard, 112,960 sq. yd. plain cement conc., 18,509 lin. ft. raised edge curb, 7800 lin. ft. rein. steel for widening bridges;

Jones—13.9 mi. grading, Gray-Eatonton road, Gray to Jones, Putnam County line, FAP 409-F, 190,184 cu. yd. excavation, 81,532

lb. rein. steel, 14,000 cu. yd. selected material subgrade treatment;

Wayne-Pierce—3.5 mi. paving, 5 bridges, Waycross-Jesup road, 2.5 mi. west of Satilla River to 1.2 mi. east of Satilla River, Flood Relief Proj., 4, 102,456 cu. yd. excavation, 24,611 lb. rein. steel, 42,571 sq. yd. limerock, base, 12,771 gal. tar prime coat, 21,286 gal. asphalt; Cont. 2, 163,900 lb. rein. steel, 350,000 lb. struc. steel, 49,700 f. b. m. treated timber, 12,420 lin. ft. treated piles, 236 lin. ft. steel wire cable, 1200 sq. yd. rip rap;

Coffee—12.4 mi. paving, Ocilla-Douglass road, Irwin-Coffee County line to Douglass, FAP P481-A, 20,391 cu. yd. excavation, 6268 lin. ft. guard rail; Paving Alt. 1, 152,476 sq. yd. limerock base, 45,743 gal. tar prime coat, 76,238 gal. asphalt, 3463 cu. yd. slag aggregate, 2000 tons extra limerock; Alt. 2, 145,215 sq. yd. sand asphalt base with sand asphalt surfacing;

Bulloch—6.216 mi. paving, 2 bridge culverts, Statesboro-Savannah road, FAP 229 Reop., Part 2, 93,710 cu. yd. excavation, 42,898 cu. yd. hydraulic settlement of fills, 60,536 lb. rein. steel, 73,135 sq. yd. conc. paving, 3700 road guard;

Wilkes-McDuffie—bridge, - Washington-Thomasson road, FAP 296-C, 78,500 lb. rein. steel, 296,000 lb. struc. steel, 1072 cu. yd. excavation, 400 tons rip rap;

Habersham-Stephens—3.885 mi. paving, Cornelia-Toccoa road, west end of Proj., 274-B to east end of Proj. 409, FAP 382 A, B, C, D and E, 734 cu. yd. excavation, 7414 lb. rein. steel, 16,500 cu. yd. hydraulic settlement of fills, 7375 lin. ft. guard rail, 48,219 sq. yd. plain cement conc. paving, 18,630 lin. ft. raised edge curb;

Schley—9.3 mi. paving, widening 2 bridges, Ellaville-Butler road, Ellaville to Schley-Taylor County line, FAP 173 Reop., and 345-B, 99,707 cu. yd. excavation, 25,409 lb. rein. steel, 8637 lin. ft. tile French drains, 1655.8 lin. ft. wire road guard, 108,723 sq. yd. conc. paving, 32,000 lin. ft. raised edge curb;

Douglas—6.3 mi. paving, Douglasville-Villa Rica road, Douglasville to Survey Station 1136/12.2, FAP 36 Reop., 73,889 sq. yd. conc. paving, 17,000 lin. ft. raised edge curb, 400 lin. ft. road guard, 6060 cu. yd. common and borrow excavation.

Ga., Augusta—Commanding Officer, Augusta Arsenal, opens bids May 1 for grading and building conc. roads.

Ga., Columbus—City rejected bids for paving Fourth St., Broadway to 10th Ave.; will call for bids for paving 18th Ave. with conc. and widening pavement of Buena Vista road.

KENTUCKY—State Highway Comsn., H. D. Palmore, Engr., Frankfort, opens bids May 27 for 11 roads and bridge in following counties:

Breckinridge—4.0 mi. grading, draining, Hardinsburg-Leitchfield road, ¼ mi. north of Eveleigh's Mill bridge to 2 mi. southeast of McDaniels;

Caldwell—7.7 mi. grading, draining, Princeton-Shady Grove road, junction with Princeton-Marion road approx. 3 mi. northwest of Princeton to cross road approx. 1 mi. northwest of Rufus;

Calloway—4.8 mi. grading, draining, Murray-New Concord road, Murray to ¼ mi. west of Cherry;

Grayson—3.5 mi. grading, draining, Leitchfield-Hardinsburg road, ¼ mi. north of Holly to near Eveleigh's Mill bridge;

Harrison—6.5 mi. surfacing, Cynthia-Brooksville road, Oddville to junction with road to Sunlight at Claysville; 3.5 mi. surfacing, Cynthia-Brooksville road, junction with road to Sunlight at Claysville to Bracken County line;

Henry-Owen—bridge over Kentucky River, Gratz; superstructure: 275-ft. steel truss span, 2 100-ft. steel truss spans, 8 50-ft. steel plate girder spans, 2 33-ft. steel plate girder spans, steel bents and towers; substructure: Rein. conc. piers, abutments and retaining walls;

Lee—11.2 mi. grading, draining, Beattyville-Zachariah road, Beattyville to Wolfe County line near Zachariah;

Livingston—2.5 mi. grading, draining, Smithland-Eddyville road, end of grading approx. 9 mi. southeast of Smithland to Cumberland River near Iuka;

Lyon—2.2 mi. grading, draining, Eddyville-Smithland road, end of graded road approx. 6 mi. west of Kuttawa to Cumberland River near Iuka Ferry;

Marshall—11.2 mi. grading, draining, Mayfield-Brewers-Eggners Ferry road, Graves County line (end of gravel road) to Hardin;

Owen—7.7 mi. grading, draining, Owen-ton-Dry Ridge road, junction with Owen-ton-Georgetown road approx. 2.2 mi. southeast of Owen-ton, to Grant County line.

KENTUCKY—State Highway Dept., H. D. Palmore, Ch. Engr., Frankfort, has low bids for 16 roads and 2 bridges in following counties:

Bell—3.356 mi. grading, draining, Blackmont-Alva road, SP 206 BG, Patterson Construction Co., Heidrick, \$33,077;

Christian—4.564 mi. 18-ft. surfacing, Madisonville-Hopkinsville road, Ewing L. Traugher, Elkton, \$68,403; 11.500 mi. grading, draining, Hopkinsville-Madisonville road, FA 171 AG, J. M. Perkins Co., Frankfort, \$84,457;

Crittenden—8.835 mi. grading, draining, Marion-Providence road, SP 236 AG, R. F. Pryor, Mayfield, \$46,615;

Grayson—7.407 mi. grading, draining, Penonia-Brownsville road, SP 58 AG, FA 225 AG, J. M. Perkins Co., \$29,563; 8.600 mi. surfacing, Caneyville-Beaver Dam road, FA 186 BS, Ralph Rogers Co., Bloomington, Ind., \$46,319;

Kenton—4.120 mi. grading, draining, Covington-Morning View road, SP 104 BG, Geo. M. Francisco, 3647 Stettinins St., Cincinnati, Ohio, \$78,083;

Madison—6.892 mi. grading, draining, Richmond-Point Lick road, FA 227 AG, O. V. Arnett, Berea, \$46,078;

Muhlenberg-Todd—14.819 mi. surfacing, Greenville-Kirkmansville road, SP 1 AS, McLellan & Moss, Bowling Green, \$53,991;

Ohio—15.11 mi. surfacing, Beaver Dam-Caneyville road, Ellis & Kelly, Owensboro, \$87,667;

Perry—3.973 mi. surfacing, Hazard-Whitesburg road, SP 4 AS, FA 128 HS, Lewis & Kelly Co., Harlan, \$63,479; 6.546 mi. surfacing, Hazard-Jackson road, FA 138 AGS, Carey-Reed Co., Lexington, \$107,990;

Warren—overhead bridge over railroad, grading, surfacing approaches, FA 210 AB, Ed Hardy & Son, Pulaski, Tenn., \$28,634;

Washington—bridge over Little Beech Creek and approaches, FA 220 BB, James A. Cometto, 516 11th Ave., Huntington, W. Va., \$23,114.

LOUISIANA—State Highway Comsn., H. B. Henderlite, Engr., Baton Rouge, has low bids for 9 roads (grading, washed gravel ballast surfacing) in following parishes:

Pointe Coupee—2.0 mi., Picayuneville Levee Highway, Route 30, No. A-33, N. H. DeBretton, 360 N. 12th St., Baton Rouge, \$17,259;

St. Charles—0.6 mi., Waterford Levee Highway, Route 30, Turcutt & Co., Plaquemine, \$3957; 0.6 mi., Star Levee Highway, Route 30, L-34, Turcutt & Co., \$3708;

St. James—1.7 mi., Winchester New Levee Highway, L-35, Route 30, J. B. LeBlanc Construction Co., Inc., Gabriel, La., \$11,541; 1.0 mi., Oneida and College Point Levee Highway, P-40, N. H. DeBretton, \$7741;

Plaquemines—1.1 mi., Fairview New Levee Highway, L-B-13, Route 1, August A. Buras, New Orleans, \$8540;

Iberville—2.4 mi., Plaquemine Point Levee Highway, Route 410, P-37, Robinson & Young, Baton Rouge, \$8333;

St. John the Baptist—2.8 mi., Garyville Reserve Levee Highway, P-38, N. H. DeBretton, \$23,526;

Ascension—1.5 mi., Sugar House Point Levee Highway, P-39, Robinson & Young, \$6650; 0.70 mi., Bowden Levee Highway, Route 1, P-41, T. W. Kleinpeter, Baton Rouge, \$3533;

La., Baton Rouge—East Baton Rouge Parish Police Jury opens bids May 14 for surface treatment with asphalt, Buckner St., Government St. to North Blvd., and street and parking area lying north of high school.

La., Lake Providence—City, Mayor and Bd. of Aldermen, has low bid from Sullivan, Long & Haggerty, Bessemer, Ala., for paving Lake St., on plain conc., \$9603; on quick setting cement, \$10,726; J. M. Fourmy, Engr., Hammond.

La., Tallulah—Madison Parish Police Jury opens bids May 6 for 2.5 mi., Tendal-Scratch-ankle road; consists of earth, gravel surfacing and laying culvert; gravel and pipe to be furnished by parish; P. O. Benjamin, Sec. and Engr. in charge.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, opens bids Apr. 28 for 5 roads:

Baltimore City—2.74 mi. grading, including Philadelphia road, Monument St. to Herring Run bridge, 0.63 mi., and along North Point road, Philadelphia road to B. & O. R. R. bridge, 0.16 mi., and along Erdman Ave., Belair road to Philadelphia road, 1.9 mi., Bc-101-72;

Baltimore County—1.0 mi. conc., Sheppard to Troyer, B-183-44;

Charles County—2.0 mi. gravel, Pisgah-Ironides road, end of Ch-79 toward Ironides, 1.0 mi., and Pisgah toward LaPlata, 1.0 mi., Ch-102-82;

Howard County—1.0 mi. penetration macad., National Pike toward Morgan Station, Ho-93-52;

Harford County—1.2 mi. conc., Shaws-ville to Baltimore County line, H-119-42.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, has low bids for 5 roads in following counties:

Charles—1.23 mi. gravel, Bel Alton-Chapel

Point road, Ch-100-82, H. W. Hewitt & Sons, Valley Lee, \$7446;

Dorchester—0.66 mi. conc., approaches to Vienna bridge, D-78-17, P. D. Phillips & Bros., Salisbury, \$22,880;

Harford—2.24 mi. conc., Whiteford to Gracetown, H-111-44, P. Reddington & Son, 2 E. Lexington St., Baltimore, \$44,327;

Washington—1.96 mi. macad. resurfacing, Greencastle Pike, W-87-62, Bester-Long Co., 441 S. Potomac St., Hagerstown, \$23,798;

Worcester—1.94 mi. conc., Stockton-Virginia Line road, Wo-93-12, Haniman Burroughs Co., Salisbury, \$30,777.

Md., Baltimore—City, Nathan L. Smith, Highways Engr., has low bids for street work: Cont. 594, 7800 sq. yd. cement conc., Arundel Construction Co., 910 Trinity St., \$15,270; Cont. 595, conc. paving approaches to Prettyboy dam site, Mahoney Bros., \$31,602; Cont. 119, 20,000 sq. yd. cement conc. footways, Peter Aversa, 104, N. Highland Ave., \$29,853.

Miss., Yazoo City—City plans expending \$100,000 for additional paving.

Mo., Clayton, St. Louis—St. Louis County, Roy Jablonsky, Highway Engr., opens bids Apr. 29 for improving several roads and streets and for rein. conc. culvert, Telegraph road.

Md., Baltimore—War Dept., Headquarters Third Corps Area, Office of Quartermaster, 311 St. Paul Pl., opens bids for road to manholes, and ramp between 6-ft. conc. sidewalk and seawall, Fort McHenry.

Md., Baltimore—City, Nathan L. Smith, Highways Engr., opens bids Apr. 29 for bitum. flushing roads and streets.

Md., Towson—Baltimore County Comms. have low bids for street improvements: Group 1, .34 mi. conc., Beechfield Ave., Ridgewood, Daniel Marine, 236 Albemarle St., Baltimore; Group 2, .23 mi. conc., Ohio Ave., Baltimore Highlands, and .19 mi. conc., Louisiana Ave., Rosemont, August Mayer, Relay.

MISSOURI—State Highway Comsn., T. H. Cutler Ch. Engr., Jefferson City, opens bids May 2 for 39 roads and 27 bridges in following counties:

Andrew—1.615 mi. 20-ft. conc., Buchanan County-Route 71, 29,063 cu. yd. excavation, 19,139 sq. yd. paving, 43AP-1;

Atchison—4.066 mi. graded earth, Route 9-Westboro, 23,827 cu. yd. excavation, SC-1;

Davies—0.877 mi. 10-ft. conc., Cameron-Altamont, 12,640 cu. yd. excavation, 52,907 sq. yd. paving, 6-14A, 69-29A, 29-30A;

Dekalb—4.244 mi. 10-ft. conc., Cameron-Altamont, 5976 cu. yd. excavation, 24,968 sq. yd. paving, 69-31A;

Holt—3.88 mi. 10 and 20-ft. conc., Mound City-Oregon, 27,656 cu. yd. excavation, 22,437 sq. yd. paving, 341F;

Merced—1.568, 4.207, 2.706, 3.218 mi. rushed stone, Princeton west, 265,113 cu. yd. excavation, 14,737 cu. yd. paving, 124,560 lb. struc. steel in bridges, I-beam and truss bridge over Weldon Fork of Grand River, 5 timber span bridges over Weldon Fork Overflow, box bridge over stream, I-beam bridge over West Muddy Creek, double box over Martin Creek, I-beam bridge over Thompson Fork Overflow and I-beam bridge over Sandy Creek, 339A, 339B, 339C, 339D;

Clark—4.621, 4.788, 4.868 mi. gravel, Iowa Line-Kahoka, 18,662 cu. yd. paving, 81-1A, 81-2A, 81-3A;

Cass—3.385, 3.20 mi. chat, Main City-Drexel, 5672 cu. yd. excavation, 6131 cu. yd. paving, SA-3, SA-4;

Johnson—2.638, 3.295 mi. chat, Chilhowee-Route 13, 16,124 cu. yd. excavation, 5570 cu. yd. excavation, SC-1, SC-2;

Lafayette—2.585, 2.727 mi. chat, Odessa south, 1316 cu. yd. excavation, 5023 cu. yd. paving, SK-1, SK-2; 3.770, 04491 mi. 20-ft. and 36-ft. conc., respectively, Lexington east, 62,322 cu. yd. excavation, 50,075 cu. yd. paving, 332-A, 24-13;

Cole—3.619, 3.043, 3.401 mi. graded earth, Jefferson City-California, 195,732 cu. yd. excavation, 3 box bridges, 1E, 1F, 1G;

Jefferson—3.498, 4.810, 1.495 mi. 20-ft. conc., House Springs-Dittmer, 291,310 cu. yd. excavation; 115,590 lb. struc. steel, 115,772 sq. yd. paving, 2 double box bridges, 2 deck girder bridges, and deck girder and truss bridge, 259E, 259F, 259I;

Perry—0.833 mi. gravel, Uniontown-Wittenberg, 15,387 cu. yd. excavation, 85,000 lb. struc. steel, 748 cu. yd. paving, I-beam bridge over Indian Creek, SA-2;

Polk—3.915, 3.712 mi. gravel, Bolivar east, 71,561 cu. yd. excavation, 8616 cu. yd. paving, 2 double box and 1 deck girder bridges, 64-56, 64-57;

Dent—1.796, 3.157, 1.895 mi. Salem east and west, 90,106 cu. yd. excavation, 6562 cu. yd. paving, deck girder bridge and box bridge, 32-1, 32-9, 32-10;

Madison—0.732 mi. 20-ft. conc., Route 61 south, 17,932 cu. yd. excavation, 10,418 sq.

yd. pavement, deck girder bridge, 67-1;

Mississippi—2.936, 2.541 mi. gravel, Refund 4-Route 55, 4557 cu. yd. paving, SC-1, SC-2;

Stoddard—4.007 mi. gravel Puxico south, 3772 cu. yd. pavement, 51-32A;

Wayne—2.500 mi. graded earth, Carter County line east, 25,896 cu. yd. excavation, 2 box bridges, SA-2.

Okla., Oklahoma City—State Highway Comsn., let contracts for cement: 500,000 bbl., Lehigh Portland Cement Co., Allentown, Pa. (Iola, Kans. plant); 250,000 bbl., divided equally between Oklahoma Portland Cement Co., Ada, subsidiary of Ideal Cement Co., Denver, Colo., and Dewey Portland Co., Kansas City, Mo. (Dewey, Okla., plant); 50,000 bbl. Lone Star Co. of Tex., Dallas, subsidiary of International Cement Corp., 342 Madison Ave., New York.

Okla., Oklahoma City—City Council ordered resurfacing Harvey Ave.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, opens bids Apr. 30 for 3 roads in following counties:

Grimes—11.6 mi. double bitum. surface treatment, Highway 90, Roan's Prairie south, Job M-17-J-3;

Kent—double bitum. surface treatment, Highway 161, intersection of Highway 84 to Fisher County line, 16.75 mi., and Highway 84, intersection Highway 161 to Garza County line, 24.69 mi., M-8-N-3 and M-8-O-3, 437,607 sq. yd. double bitum. surface treatment;

Blanco—14.7 mi. double bitum. surface treatment, Highway 20, Johnson City to Hays County line, M-14-I-3, 155,232 sq. yd.

Tex., Marshall—City, P. M. Herndon, City Sec., rejected bids for paving; readvertise. 4-9

Tex., Randolph Field—See Airports, Airplane Plants, etc.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, call bids soon, probably to close Apr. 30 or May 1, for 25 roads and 2 bridges in following counties:

Haskell—9.971 mi. grading, draining, Highway 51, intersection with Highway 18 to Rule, SAP 959-D;

Fannin—3.620 mi. grading, draining, Highway 5, Bonham about 3.6 mi. east, FAP 464-A, Unit 1;

Caldwell—7.106 mi. triple and double bitum. surface treatment on gravel base, Highway 80, Fentress south to Precinct No. 3 line and double surface treatment on Fentress connection, SAP 849-B, Unit 2;

McLennan—10.685 mi. grading, draining, Highway 44, Falls County line to south city limits of Waco, FAP 622-A, Unit 1;

Pecos—4.516 mi. grading, draining, Highway 82, 17 mi. northwest of Sanderson to 1 mi. north of Terrell County line, SAP 910-E, Unit 1;

Tarrant—4.280 mi. asphalt on conc. base, Highway 1, Dallas County line to Death Crossing, SAP 898, Unit 2;

Gonzales—5.324 mi. limestone rock asphalt on crushed limestone and volcanic ash base, Highway 81, 5.55 mi. east of Smiley to Dewitt County line, FAP 440-E, Unit 2;

Fayette—4.665 mi. grading, draining, Highway 17, 3/4 mi. east of LaGrange to beginning of FAP 416-B, FAP 417-A, Unit 1;

Erath—3.920 mi. grading, draining, Highway 10, Comanche County line to Dublin, FAP 164-Reop., \$40,000;

Wheeler—16.882 mi. grading, draining, Highway 152, Wheeler to Gray County line, SAP 914-A, Unit 1;

Potter—5.798 mi. grading, draining, Highway 5, Amarillo Creek to Canadian River bridge, FAP 585-A, Unit 1;

Hemphill—9.393 mi. grading, draining, Highway 33, Roberts County line to intersection with Highway 4, FAP 625-C, Unit 1, \$70,000;

Grayson—12.620 mi. 18-ft. rein. conc. paving, Highway 5, Sherman to Fannin County line, FAP 552-A and FAP 292-A Reop.;

Liberty—3.259 mi. 20-ft. rein. conc. pavement with 5-ft. shell shoulders, Highway 3, Liberty to Dayton through Trinity River bottom, and 163 mi. State Aid section, same type construction, for approaches to Trinity River bridge, FAP 352-Reop., \$120,000;

Titus—1.761 mi. grading, draining, Highway 49, S. First St., Mt. Pleasant, to Harts Creek bottom, FAP 227-Reop., Unit 1;

Caldwell—2.823 mi. triple bitum. surface treatment on gravel base, Highway 80, Precinct No. 3 line to Luling, SAP 849-C, Unit 1;

Roberts—14.136 mi. grading, draining, Highway 33, Gray County line to Hemphill County line, FAP 625-B, Unit 1;

Johnson—2.587 mi. grading, draining, underpass, Highway 64, Ellis County line to 1.7 mi. west of Vernon, FAP 592-D, Unit 1; 2.587 grading, draining, underpass, Highway 68, Ellis County line to 1.7 mi. west of Vernon, FAP 592-D, Unit 1;

Willbarger—steel, conc., timber bridge, creosoted piling substructure, steel I-beam stringers and conc. slab trestle, 3706 ft., over

Red River, Highway 23, between Elmer, Okla., and Vernon, Tex., SAP 928-E; Ellis—6.262 mi. grading, draining, Highway 68, Midlothian southwest to Johnson County line, involving considerable number of large bridges, FAP 592-C, Unit 1; Fisher—16.467 mi. grading, draining, Highway 83, Roby to Scurry County line, SAP 917-C, Unit 1; Refugio—13.785 mi. 18-ft. rein. conc. paving, Highway 57, Aransas County line to Calhoun County line, SAP 807-B, Unit 2; Fannin—conc. girder bridge over Post Oak Creek and Relief, 788 ft., series of 28 ft. 6-in. conc. girders, 22-ft. roadway, Highway 5, FAP 464; Lavaca—21.870 mi. rein. conc. pavement, Highway 109, intersection of Highway 72 to Fayette County line; San Jacinto—15.077 mi. grading, draining, Highway 150, Cold Springs to Waller County line, SAP 751.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, plans 5 roads in following counties:

San Patricio—1.222 mi. grading, draining, 2-course limestone rock asphalt surface course on 10½-in. compacted caliche base course through Sinton, Highway 128 and 16, FAP 791-C;

Liberty—392 mi. rein. conc. pavement with shell shoulders, Highway 3, approaches to Trinity River bridge, FAP 352-B, \$14,000;

Bowie—10.941 mi. grading, draining, Highway 11, DeKalb to Red River, SAP 922-G, Unit 1, \$60,000;

Calhoun—1.825 mi. grading, draining, 8-in. compacted shell base course, Highway 57, Port Lavaca to west shore Lavaca Bay, SAP 807-F, \$19,500.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, plans 5 roads in following counties:

Fisher—8.786 mi. grading, draining, Highway 70, Roby to Rotan, \$80,000;

Houston-Trinity—4.962 mi. grading, draining, Highway 19, 9 mi. south on Lovelady to 9 mi. north of Trinity, FAP 485-E & F, Unit 1, \$88,000;

Hill—2.90 mi. grading, draining, Highway 31, McLennan County line to connection with present highway, FAP 124-Rep., Unit 1;

Jim Wells—21.406 mi., Highway 145, Live Oak County line to Alice, Unit 2, 5½-in. compacted caliche gravel base course, Unit 3, 4-in. compacted caliche base with 1-in. 2-course limestone rock asphalt surface course, SAP 931-F, Units 2 and 3, \$65,000;

Navarro—4.444 mi. 20-in. rein. conc. paving, Highway 14, north line Consolidated Road Dist. No. 1 south toward Corsicana, FAP 569-C, Unit 2, \$120,000.

Tex., Beaumont—City plans paving First St.

Tex., Belton—Bell County Road Dist. No. 9-A voted \$625,000 bonds for conc. highways; to be matched with \$890,000 in state aid, providing 62 mi. paved roads.

Tex., Henrietta—Clay County, reported, considering \$3,000,000 road program.

Tex., Lipscomb—Lipscomb County expend \$350,000 for road improvements.

Virginia—U. S. Dept. of Agriculture, Thos. H. MacDonald, Ch. of Bureau of Public Roads, Washington, D. C., plans letting contracts about June 1 for highway through Shenandoah National Park; to be at elevation of 3000 to 4000 ft.; portions will be rather heavy, including some rock; approx. \$400,000 allocated for this year by Park Service. 4-2

VIRGINIA—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, has low bids for 5 roads and 2 bridges in following counties:

Hanover—2.3 mi. widening Richmond-Washington Highway, Spotsylvania Construction Co., Highland Springs, \$30,906;

Loudoun—3.6 mi. macad. surface treatment, Route 32, R. W. Moore & Co., Staunton, \$72,590;

Giles—6 mi. macad. surface treatment, Route 23, G. T. Franklin, Bassett, \$12,053; Fluvanna—130-ft. bridge over Cunningham Creek, Route 32, Cobb & Homewood, Chapel Hill, N. C., \$8805;

Washington—1.8 mi. macad. surface treatment, Route 10, East Tennessee Limestone Quarries, Johnson City, Tenn., \$34,545;

Buckingham—22½ ft. bridge over Austin's Run, Cobb & Homewood, \$5274;

Lancaster—7.3 mi. soil surface treatment, Route 37, J. M. Cowherd, Gordonsville, \$43,413. 4-2

Va., Richmond—Streets Committee of City Council approved ordinances authorizing smooth paving Broad St., Lafayette St. westward to corporation line, and Floyd Ave., Crenshaw Ave. to Nansemond St.

WEST VIRGINIA—State Roads Comsn., Geo. F. White, Sec., Charleston, has low bids for 17 roads and 2 bridges, involving approx. \$1,100,000, in following counties:

Kanawha—2.05 mi. retread, Route 25, Southern Oil & Tar Co., Clay St. and River Road, Louisville, Ky., \$7708;

Lincoln—5.4 mi. conc., State Route 10, Hatfield Construction Co., 722 14th St., Huntington, \$111,156;

Lincoln-Logan—25,000 ft. wire rope guard rail, State Route 10, J. W. Warwick, Williamson, 28.5 per ft.;

Mercer—65,000 ft. wire rope guard, State Routes 44 and 24, Edmon-Kirby Co., Preston, 27 cents per foot;

Mingo-Wyoming—10.08 mi., surface treatment, between Justice and Wymoing County line and McDowell County line to Mingo line, Southern Oil & Tar Co., \$15,968;

Nicholas—2.05 mi. stone top course, U. S. 19, Keely Construction Co., Empire Bldg., Clarksburg, \$8136; 11 mi. retread, State Route 94, Southern Oil & Tar Co., \$48,512;

Ohio—1.57 mi. conc., State Route 91, Consolidated Engineering Co., East End 17th St., Wheeling, \$37,595;

Putnam—2.2 mi. surface treatment, State Route 25, Southern Ohio Quarries Co., Chillicothe, Ohio, \$2432; 7.08 mi. surface treatment, State Route 25, Southern Ohio Quarries Co., \$11,271;

Braxton—1.78 mi. grading, gravel surfacing, U. S. 19, A. Pettito, Mt. Clair, \$36,138;

Greenbrier—5.46 mi. conc., U. S. 60, Hatfield Construction Co., \$127,103;

Harrison—Good Hope bridge over West Fork River; substructure, Kerr & Bishop, Morgantown, \$8162; superstructure, Nelson H. Clark, Luray, Va., \$11,550;

Marion—Conaway bridge over Buffalo Creek, conc. substructure, Monty Bros., 403 Ohio Ave., Charleston, \$6566;

Barbour-Taylor—11,600 ft. wire rope guard rail, U. S. 50, Poling & Shomo, Junior, 28 cents per foot;

Wetzel—5.25 mi. conc., State Route 7, Sam Polino, 208 Newton St., Fairmont, \$109,760;

Preston—14,000 ft. wire rope guard rail, State Route 26 Poling & Shomo, 29.3 cents per foot; 9.5 mi. conc., Route 26, Tri-State Engineering Co., Liberty Trust Bldg., Cumberland, Md., \$221,200; 2.07 mi. widening base and retread top, State Route 26, Keely Construction Co., \$23,370. 4-2

W. Va., Huntington—U. S. Veterans Bureau, Construction Div., Arlington Bldg., Washington, D. C., opens bids May 5 for grading entrance road and installing pipe culverts, U. S. veterans hospital.

Contracts Awarded

Ala., Gadsden—Etowah County build 6 mi. Attalla-Springville Highway, Attalla to Steele at St. Clair County line, costing \$70,000, with convict labor; build 400-ft. bridge over Willis Creek, Curtiston and 200-ft. span over Canoe Creek near Steele, both of conc.; soon start work extending highway to Springville to connect with paved road leading into Birmingham.

Ga., Columbus—Muscogee County, R. H. Barnes, Clk., let contract to Campbell Contracting Co., 1312 10th Ave., at \$35,941, for 10,888 sq. yd. rein. conc. paving, Cherokee Ave. and Lossomhurst road.

KENTUCKY—State Highway Comsn., H. D. Palmore, Ch. Engr., Frankfort, let contracts for 5 roads in following counties:

Calloway—bridge over east for of Clarks River and approaches, Murray-Hazel road, R. F. Pryor Co., Mayfield, \$23,974;

Casey—8.7 mi. grading, draining, Liberty-Somerset road, Wilmore Construction Co., Wilmore, \$60,092;

Lincoln—10.5 mi. surfacing, Stanford-Mt. Vernon road, Stone Construction Co., Columbus, Ohio, \$138,815;

Livingston—6.3 mi. grading, draining, Salem-Golconda road, R. F. Pryor Co., \$51,548;

Boyd—approaches and side drives to bridge over Ohio River, Ashland, Hunt-Forbes Co., Ashland, \$6814.

Ky., Lexington—City, W. C. Wilson, Commr. of Public Works, let contract to Carey-Reed Co. at \$19,883 for reconstructing Main St.

Maryland—State Roads Comsn., L. H. Steuart, Sec., Baltimore, let contract to Christhill & Ensey, 1625 Ridgely St., Baltimore, at \$19,837, for 0.40 mi. conc. Baltimore-Washington Blvd., Ho-82-38, FAP R-6-F, Howard County. 4-2

Tex., Spearman—City Comsn. let contract to Panhandle Construction Co., Amarillo, for 20 blocks paving.

Va., Richmond—City, R. Keith Compton, Dir. Public Works, let contracts for street work: Curbing, guttering 6 streets, Brook-

dale section on Northside, John J. Curley, 901 N. 4th St., \$25,790; improving 6 streets, Highland Park section, same firm, \$23,956; curbing, guttering 12 streets, East End, Anderson & Maynard, 3911 Hanover Ave., \$16,590.

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

Ark., Dumas—Sewer Improvement Dist. No. 1, Fred A. Allen, Engr., reported, postponed construction of sewage disposal plant, storm sewers, etc. 2-12

D. C., Washington—See Drainage, Dredging and irrigation.

D. C., Washington—Dist. Commrs. let following contracts: John B. Rubino, 2020 R. I. Ave., N. E., for Slush Run Trunk Sewers; W. F. Brenizer Co., 101 New York Ave., N. W., for Tennessee Ave., Relief Sewer; R. D. Schlegel, 1330 Buchanan, N. W., for Allison and South Dakota Ave. sewer and Varnum St. sanitary sewer; Bright-Shepherd Co., Inc., 1415 K St., N. W., for 18th St. Relief Sewer; Peter D'Adamo Co., Marine Bank Bldg., Baltimore, Md., for Shepherd Park San. Sewer and Otis St. storm water sewer.

Fla., Orlando—City, Morton Macartney, City Engr., reported, considering construction of storm sewer north on Orange Ave. to Lake Ivanhoe or Lake Concord.

Maryland—Legislature approved bonds for sewer work in following cities: Baltimore, \$5,000,000; Cumberland, \$10,000; Cambridge, \$350,000. See Water Works.

Md., Baltimore—Bd. of Awards receives bids May 6 for sewers, Storm Water Contr., No. 164.

Md., Baltimore—Angelozzi Construction Co., Kennison & Rogers Ave., low bidder at \$27,954 for sewers, Storm Water Contr. No. 163. 4-9

Miss., Union—Shruptrine Construction Co., Canton, reported, has contract for complete construction of 12-in. sewer pipe line and 1000 ft. of open ditch; W. B. Montgomery, Const. Engr., Henry Memorial Bldg., Jackson. 3-19

Tenn., Chattanooga—City, W. H. Wilson, City Engr., and Missionary Ridge Business League plan development of sewers for Missionary Ridge.

Tenn., Memphis—City receives bids April 28 for Hollywood and Driving Park sewers, consisting of laying 43 mile of 8-in., 6 mile of 10-in., 3 miles of 12-in. pipe, etc.

Tex., Dallas—E. L. Dalton, Wilson Bldg., has contract at \$60,000 for sanitary sewer system; work to start in about 10 days; 46,000 ft. of 6-in., 15,900 ft. of 8-in. and 1700 ft. of 10-in. pipe; Globe Sewage Degrading Co., Esperson Bldg., Houston, will install disposal plant; Horace Culpepper, Engr., Post-Pispatch Bldg., Houston. 4-16

Tex., Dallas—City soon receive bids for construction sanitary sewers for Clifton Place, No. 2; cost \$11,000.

Tex., Highlands—Harper Constr. Co., Dallas, reported, has contract at \$103,000 for sanitary sewerage and water works system.

Tex., Houston—D. Barker, Commr., commissioned by city council to complete negotiations for purchase of 30 acre site in vicinity of Simms Bayou for sewage disposal plant with ultimate capacity for population of 500,000; sewer line to be constructed along water level from old South End disposal plant to site of proposed new treatment plant, cost \$400,000; sewage plant to cost \$1,000,000 and have capacity of 12,500,000 gal. sewage daily; plans to be prepared this summer; may vote on bonds; G. L. Fugate, Asst. City Engr.

Tex., Houston—J. B. McCrary Co., Praetorian Bldg., Dallas, reported, has contract at \$147,711, for construction of North Main St. storm sewer. 4-2

Va., Roanoke—C. L. Tinsley, 513 13th St., S. W., has contract for 6 sewer projects; J. R. Ford Co., Inc., Summit Ave. and Sixth St., Waseana, for 1 sewer project; total cost \$134,807. 4-16

Va., Richmond—W. J. McLane, reported, has contract at \$68,084 for construction of Sheppard St. relief sewer; Concrete Pipe and Products Co., Inc., Central Natl. Bank Bldg., at \$11,092 for furnishing and delivering precast, rein. conc. pipe and slab liners. 4-12

W. Va., Kenova—City, W. S. Tabor, City Engr., expend \$32,000 for 5000 ft. of 36-in. storm sewer, 2000 ft. of 30-in. sanitary sewers; work by city's forces; materials not purchased. 3-19

Telephone System

Fla., Pompano—Southern Bell Telephone & Telegraph Co., Hurt Bldg., Atlanta, Ga., reported, plans erection of central telephone exchange; install \$12,000 automatic equipment.

Ky., Mt. Sterling—Southern Bell Telephone & Telegraph Co., Atlanta, Ga., reported, construct \$15,000 exchange and office on E. Main St.

Miss., Jackson—South States Utilities Co., Paul J. Whitehead, Tupelo, Gen. Supt., reported, plans rehabilitation program.

Mo., Kansas City—Southwestern Bell Telephone Co., reported, let contract to Longdale Bros., 1342 Telephone Bldg., for brick and rein. conc. telephone building, 63rd and Holmes Sts.; Kansas City Terra Cotta Co., 19th and Manchester Sts., for terra cotta.

Mo., St. Louis—Humes-Deal Co., Arcade Bldg., has contract for Firestone Exchange, Eichelberger and January Aves. for Southwestern Bell Telephone Co.; 2 story and basement; 96x73 ft.; rein. conc.; brick walls; terra cotta trim; metal windows; I. R. Timlin, Archt., 1917 Telephone Bldg.

N. C., Charlotte—Wenigo Radio Co., capital \$125,000, incorporated; H. G. Wright, Bessemer St. ext., Greensboro.

Tex., Austin—Southwestern Bell Telephone Co., reported, let contract to Jas. T. Taylor, Aviation Bldg., Fort Worth, for improvements to building; 2 stories; brick, tile and terra cotta, metal windows; cement floors.

Tex., Dallas—Southwestern Bell Telephone Co., 804 Telephone Bldg., let contract to W. J. Schroeder, Luling, for brick and veneer telephone building; 1 story; wood and comp. shingle roof; C. E. Overbeck, Constr. Engr., 804 Telephone Bldg., Dallas.

Tex., San Antonio—Southwestern Bell Telephone Co., 308 S. Akard St., Dallas, reported, construct 2 story, brick and rein. conc. annex, Mission Exchange; also addition to Woodlawn Exchange.

Tex., San Benito—A. E. Lindeen & Co., Harlingen, reported, has contract at \$11,000 for 1-story, brick, telephone building for Rio Grande Valley Telephone Co., Reagan Ave. and Haywood St.

Tex., San Benito—Rio Grande Telephone Co., reported, let contract to Meriwether & Sauers, Harlingen, at \$12,000 for garage and office building Reagan Ave. and Heywood St.

Textile Mills

Ala., Tallahassee—Tallahassee Mills, erecting addition to picker building; 4 story; elevator contract to Otis Elevator Co., New York; 10 per cent complete; construction by company's forces; cost about \$25,000.

Ga., Columbus—Draper Corp., Hopedale, Mass., and Atlanta, Ga., reported, has contract for 1000 single shuttle automatic looms for installation in Bibb Mfg. Co.'s plant; manufacture print cloth.

Ga., Austell—American Moistening Co., 30 E. Fourth St., Charlotte, N. C., reported, has contract for complete humidifying equipment for Clark Thread Co.'s mill; Grinnell Co., Inc., Charlotte, N. C., for automatic sprinkler system, heating and boiler piping; A. K. Adams & Co., Gen. Contr., 542 Plum St., Northwest, Atlanta.

N. C., Burlington—E. M. H. Rayon and Silk Weavers, Inc., capital \$250,000, incorporated; Walter M. Williams, J. R. Copeland, J. M. Fowler.

N. C., Gastonia—Directors of 14 cotton mills approved plans for merger and granted authority to directors of new concern to purchase 6 additional plant, by exchange of stock; company to be formed to be known as Textiles, Inc., with capital of \$10,000,000; controlling approximately 300,000 spindles; stockholders of mills included in merger will vote May 26 on ratification of merger; mills involved are Arkray Mills, Inc., Arlington Cotton Mills, both Gastonia; Cora Cotton Mills, King's Mountain; Elizabeth Mills, Inc., Charlotte; Gray Mfg. Co., Mutual Cotton Mills; Myers Mills, Inc., Myrtle Mills, Inc., Osceola Mills, Inc.; Seminole Cotton Mills; Victory Yarn Mills and Wingert Mills, all of Gastonia; Merco Mills, Inc., Lincolnton; Priscilla Mills, Inc., Randle; six additional mills to be acquired are Dilling Cotton Mills, Kings Mountain; Flint Mfg. Co., and Ridge Mills, Inc., both Gastonia; Helen Yarn Mills, Rock Hills, S. C.; Lockmore Cotton Mills, York, S. C.; Wymajo Mills, Rock Hill, S. C. A. G. Myers, J. H. Separk, C. O. Armstrong, Directors.

N. C., Raleigh—Pilot Mills Co., capital \$200,000, incorporated; W. H. Belk, K. G. Hudson, 220 E. Park Drive, and C. S. Tatum; acquired tire fabric manufacturing plant; may manufacture rayon products.

N. C., Reidsville—Edna Mills Corp., incorporated; J. B. Ripkin, Reidsville; J. W. Norwood, Greenville, S. C.

Tenn., Chattanooga—Massachusetts Knitting Mills, 89 Bickford St., Boston, Mass., reported, establish southern branch plant; making survey of several Southern cities for location.

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.

Fla., Ormond—Town, W. F. Morris, Chmn. Bd. of Zone Mgrs., receives bids May 19 for labor and material and laying cast iron pipe. See Want Section—Bids Asked.

Ga., Fort Valley—City, T. A. Jones, Supt., erect filtration plant, reservoirs, tanks, etc.; W. E. Darrow, Engr., Columbus.

Ga., Fort Valley—City, T. A. Jones, Supt. Water and Light Dept., construct filtration plant, reservoir, sedimentation tanks and aeration tanks; Warren E. Darrow, Consult. Engr., Masonic Temple, Columbus.

Ga., Newnan—Cole Mfg. Co., reported, has contract at \$30,000 for water tank for Water and Light Comsn.

La., New Iberia—City plans improvements to water works, electric light improvements and sewerage extension.

Maryland—Legislature approved bonds for water works in following cities: Baltimore, \$7,500,000; Cumberland, \$900,000; Clear-springs, \$25,000, water and sewers; Frederick, \$225,000; Frostburg, \$200,000; Grantsburg, \$25,000; Kitzmiller'sville, \$25,000; Middleton, \$10,000; Rockville, \$50,000, water and sewer; Salisbury, \$75,000, water and sewers; Snow Hill, \$25,000, water and sewer.

Md., Baltimore—City, votes May 5 on \$7,500,000 water works bonds; Wm. F. Broening, Mayor.

Md., Brunswick—City, Harry C. Allgire, Mayor, has option on Yountes Spring as source of water supply.

Md., Curtis Bay, Baltimore—Thomas Mul-lan, 3945 Greenmount Ave., Baltimore, reported, low bidder for masonry wall tank enclosure.

Md., Frederick—City, Elmer St. C. Maxwell, City Engr., will probably have plans ready in about 3 weeks for 250,000 gal. filtration plant, pumps, etc.; 3 1/4 miles of 18-in. mains; Whitman, Reguardt & Smith, Consult. Engrs., Baltimore Trust Bldg., Baltimore.

Md., Oxford—Town, Walter F. Moore, Engr., has plans and specifications under preparation for extension to present water works system; approximately 700 ft. of 6-in., 2700 ft. of 4-in. and 500 ft. of 2-in. c. i. pipe; will probably open bids in about 3 weeks. See Want Section—Machinery and Supplies.

Miss., Centerville—City let contract to Carl-ross Well Supply Co., 116 S. Front St., Mem-phis, Tenn., for Cook Deep Well strainer.

Miss., Canton—See Electric Light and Power.

Miss., Oxford—University of Mississippi, W. C. Trotter, Sec. State Building Comn., State Capitol Bldg., Jackson, receives bids May 7 for centrifugal pump and motor, pipe, valves and fittings and certain electrical equipment.

Mo., Hollister—A. T. Hogle, 106 Callahan St., Muskogee, Okla., reported, has contract at \$18,000 for water works and distribution system; Forslund Pump & Mch. Co., 3031 Main St., Kansas City, Mo., for pumping equipment; Darby Corp., 923 N. Third St., Kansas City, for steel storage tank.

Mo., St. Louis—Water Dept., reported, let contract to American Cast Iron Pipe Co., Birmingham, Ala., and McWane Cast Iron Pipe Co., 208 S. La Salle St., Chicago, Ill., for c. i. pipe; hub and spigot valves to Chapman Valve Mfg. Co., 835 W. Washington Blvd., Chicago, Ill.; hub valves to M. and H. Valves & Fittings Co., 23rd St., Anniston, Ala.; steel pipe to Biggs Boiler Works Co., Akron, O.

Tenn., Lebanon—City has final plans in progress for 2,000,000 gal. per day capacity filtration plant, c. i. pipe water mains and pumping station; cost \$200,000; Wiedeman & Singleton, Consult. Engrs., 1404 Candler Bldg., Atlanta, Ga.

Tex., Amarillo—City, Bill Durham, City Mgr., reported, plans water main, sewer and fire alarm system extensions; bids called for 40,000 ft. of sewer tile; will use 25,000 ft. of pipe in water main extension.

Tex., Highlands—See Sewer Construction.

Tex., Taylor—City, F. V. Swain, Supt. Water Works, has plans complete, no date set for opening bids for water works; Hawley, Freese & Nichols, 417 Capps Bldg., Fort Worth, Consult. Engrs.

Tex., Vega—City voted \$25,000 water works bonds; construct system including wells, reservoir, pumping equipment and distributing mains.

Va., Falls Church—J. B. McCrary Engineering Co., Atlanta, Ga., reported, has contract to supervise installation of water works system; 67,000 ft. of new mains and feeders.

Va., Virginia Beach—Brigadier-Gen. S. Gardner Waller, Act. Adjt.-Gen., receives bids June 28 for water and sewer improvements at Virginia state rifle range; cost \$15,000.

Woodworking Plants

Fla., St. Petersburg—Shippers Equipment Co., 335 18th Ave., S. H. E. Wendell, Pres., manufacturing nailless steel bound boxes, barrels, hampers, baskets; daily output 2000; may add 12,000 sq. ft. of floor space to building; let contract to Parsons Specialty and Machine Works, 5th and Courtland Sts., Philadelphia, Pa., for equipment. See Want Section—Miscellaneous.

N. C., Goldsboro—Wm. P. Kemp and John S. McDaniel, Easton, Md., reported, acquired furniture plant; install additional machinery and operate.

N. C., Hickory—Stockholders of Hickory Chair Co., Hickory Furniture Co. and Martin Furniture Co., manufacturers of chairs, living room, dining room and bed room suites, ratified plans voted on by board of directors for merger of companies into company to be known as Hickory Chair Mfg. Co.; K. C. Menzies, Pres.; authorized capital stock of \$1,000,000 will be composed of \$700,000 common stock divided into 7000 shares of par value of \$100 per share and \$300,000 of preferred stock of same par value.

N. C., Highlands—D. E. Frye, Hickory, reported, let contract to W. A. Setzer, Catawba, for furniture manufacturing plant; cost \$35,000; 2 1-story units, each 50x85 ft.; Q. E. Herman, Archt., Hickory.

Tenn., Chattanooga—Tennessee Furniture Corp., W. First St., construct \$17,000, 1 story, brick dry kiln.

Va., Bassett—Bassett Furniture Industries, Inc., Martinsville, reported, practically completed plans for erecting their manufacturing plant adjacent to plant of J. D. Bassett Furniture Mfg. Co. at North Bassett; work to begin in about 30 days; operated under name Bassett Chair Co.; cost about \$200,000; will manufacture bedroom and dining room chairs; daily output 1200; will be operated as separate unit from 3 present factories.

FIRE DAMAGE

Ala., Gadsden—Stores of Edward Electric Co. and Howell Paint Co. on Broad St.; loss \$15,000.

Ark., Forrest City—Mann Bldg., occupied by offices of Judge Mann, Taylor, Knight & Co. and B. F. King; Clarence Saunders' store and Southwestern Bell Telephone Exchange; loss \$23,000.

Ark., Stamps—Stamps Union Station, occupied jointly by Louisiana and Arkansas Ry. Co., E. F. Salisbury, Ch. Engr., Minden, La., and St. Louis Southwestern Ry. Co., J. F. McCurdy, Div. Engr., Pine Bluff; loss \$10,000.

Ark., Success—Tézzie Smith's dry goods and grocery store; loss \$20,000.

Ga., Boston—Oil mill and cotton gin owned by H. M. Groover.

Ga., Lizella—N. W. Cloud's residence, Route 3.

Ky., Murray—Warehouses of A. G. Outland & Co. and Murray Tobacco Bd. of Trade; loss \$40,000.

Ky., Tracy—Two barns and house of Basco Shelton; Will Carver's residence.

Md., Baltimore—Main Building of Baltimore Parental School, Kenwood Ave. and Maiden's Choice Lane, Joseph C. Hands, Supt.

Mo., Maysville—School building; loss \$25,000; address Bd. of Education.

N. C., Charlotte—W. L. Alexander's residence.

N. C., Deep Run—Two stores with adjoining filling stations and barber shop owned by Lloyd Heath, Haywood Davenport, John Blizzard and John Davenport; loss \$20,000.

N. C., Statesville—Plant of J. C. Holmes Lumber Co. in West Statesville; loss \$25,000.

Tex., Memphis—W. P. Dial's farm house near Memphis, occupied by Wes Mabry.

Tex., Orange—Warehouse of Orange Car and Steel Co.

Tex., Palestine—Roy S. Walker's residence,

Montalba Highway.

Tex., Texarkana—Stewart Produce Co.'s building; loss \$30,000.

Va., Mount Jackson—J. C. Hottel's flour mill.

W. Va., Talcott—Methodist Episcopal Church, barber shop, meat market and 3 dwellings; loss \$18,000.

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Miss., Starkville—Ancient Free and Accepted Masons selected P. J. Krouse, M. & W. Bldg., Meridian, as architect for \$20,000 temple and theater bldg.; theater to be operated by Kuykendall-Sanford Enterprises, Columbus. 4-9

Bank and Office

Ala., Birmingham—Liberty National Life Insurance Co., Robt. P. Davison, Pres., having plans drawn for \$75,000 first wing of office bldg., 2230 Highland Ave.; call for bids as soon as plans are approved and specifications drawn; C. H. McAuley, Archt., Jackson Bldg. 1-22

Tenn., Big Sandy—Joe and Waddell Wilson consider erecting 2- or 3-story brick office building.

Churches

Ark.-Tex., Texarkana—Central Christian Church, Elmer L. Lincoln, Chmn., Bldg. Comm., 2223 Wood St., erect \$60,000 to \$80,000 bldg., Ninth and Walnut Sts.; Witt, Seibert & Halsey, Archts., Texark. Natl. Bk. Bldg.; soon ready for bids.

Fla., Melbourne—Catholic Church, Rev. John F. Walsh, Pastor, erect \$10,000 bldg., Lincoln and Hickory Sts.; Gothic type, stucco, 38x67 ft., accommodate 200; F. Earl DeLoe, Archt.; contract let.

Ga., Savannah—Church of the Nazarine, Rev. Vernon F. Taylor, Pastor, considers erecting bldg., Atlantic Ave. near 36th St.

La., Monroe—Trinity Lutheran Church, Rev. H. H. Schaefer, Pastor, plans bldg., Sherrouse Addition.

Mo., Springfield—Forest Hills Christian Church, 1707 W. Olive St., raising funds for \$25,000 church, W. Walnut St. and Park Ave. 8-28-30

Mo., St. Louis—Temple Shaare Emeth has \$50,000 bequest for memorial chapel, site of \$250,000 synagogue under constr. by Chas. B. McCormack & Son, 318 N. Eighth St., St. Louis; plans for synagogue by Alfred S. Alschuler, Inc., Steger Bldg., Chicago, Ill.; H. J. Elson, Constt. Engr., 208 N. Broadway, St. Louis. 3-12

Tex., Wichita Falls—First M. E. Church, South, opens bids April 29 for Sunday school, 11th and Travis Sts.; \$60,000, mill constr., 3 stories, 135x96 ft., pine floors, rein. conc. foundation, built-up tar and gravel roof, steel sash and trim, cast stone, limestone; Ray C. Arnhold, Archt., 910 Staley Bldg., Wichita Falls; R. F. Taylor, Mech. Engr., Santa Fe Bldg., Dallas. 3-26

Va., Arlington—Community Methodist Church, care A. F. Thelander, Archt., receives bids April 27 for bldg., Key Blvd. and Virginia Ave., Aurora Hills; \$25,000, brick.

City and County

Ark., Russellville—Pope County Bd. of Commrs. receives bids until May 5 for court house; brick and stone, 4 stories and basement, 120x74 ft., conc. and marble floors, built-up roof; H. Ray Burks, Archt., Wallace Bldg., Little Rock. 3-19

D. C., Washington—District Commrs., Dist. Bldg., plans fire station, Rhode Island Ave. and Brentwood Place, N. E.

Fla., Jacksonville—City Commrs. plan election, probably in June, on bonds, including \$15,000 for fire station, St. Johns Park, and \$15,000 for fire station, Panama Park.

La., Crowley—Additional estimators on \$60,000 city hall and auditorium, bids May 12 (extended date) by City Council. General.—J. A. Petty & Sons, Inc., Audubon Bldg.; H. A. Pallfelt, Balter Bldg., both New Orleans; Jas. McDaniel; J. S. Mathews, both Crowley; Plumbing and heating.—American Heating & Plumbing Co., Inc., 829 Baronne St., New Orleans; Craft-Rushworth, Ltd.,

Broad St., Lake Charles; H. H. Guillot, Bunkie; M. Harper, Pineville; Standard Plumbing, Heating & Supply Co., Inc., 227 Laurel St., both Baton Rouge; Escudier Bros., Lafayette; Furniture and Equipment.—Dameron-Pierson Co., Ltd., 403 Camp St.; F. F. Hansell & Bro., Ltd., 404 Carondelet St.; H. C. Parker, Inc., 445 Camp St.; Riecke Cabinet Works, 4201 Tulane St., all New Orleans; Everett School Supply Co., Inc., 3rd St., Baton Rouge; Jail Work.—Southern Prison Co., 4500 S. Presa St., San Antonio, Tex.; Fries & Son Steel Construction & Engineering Co., Covington, Ky.; Stewart Iron Works, Columbus, O.; Pauly Jail Building Co., 2215 DeKalb St., St. Louis, Mo.; Wm. T. Nolan, Archt., Canal Bk. Bldg., New Orleans. 4-16

La., Shreveport—Caddo Parish Police Jury receives bids until May 14 for jail equipment; Ashton Glassell, Inc., 260 Cadillac St., has gen. contract at \$53,862. 4-16

Md., Baltimore—City, A. Walter Kraus, City Solicitor, authorized by Legislature to hold referendum on \$29,000,000 bonds, including \$500,000 for erection of bldg. for People's and Juvenile Court. 2-26

Miss., Senatobia—Mayor and Bd. of Aldermen receives bids until May 4 for fire station; plans on file at office Harper Johnson, Town Clerk.

N. C., Charlotte—Treasury Dept., Jas. A. Wetmore, Act. Supv., Archt., Washington, D. C., drawing preliminary sketches for \$525,000 addition to Federal bldg.; work probably not start for 6 or 7 months. 9-11

Tex., Corpus Christi—Nueces County Bd. of Commrs., Nat Benton, Judge, rejected bids for office equipment, including chairs, files, etc., for \$100,000 court house annex; receives new bids May 18; Dielmann & Levy, Archts.-Engrs., State Natl. Bk. Bldg.

Tex., Del Rio—Val Verde County, Roger Thurmond, Judge, opens bids May 16 for remodeling court house and jail; \$75,000 to \$100,000; Henry T. Phelps, Archt., Hicks Bldg., San Antonio.

Tex., Palestine—Anderson County erect \$60,000 jail; brick, tile and rein. conc.; Theo. S. Maffitt, Archt., 510 N. Sycamore St.

Tex., Iraan—Pecos County Commrs., Court, Fort Stockton, receives bids until April 30 for swimming and wading pool pavilion, dressing and shower rooms; frame; cement walks and runways; plumbing, wiring, painting; David S. Castle Co., Archt., Mercantile Bk. Bldg., Dallas, and Abilene.

Tex., San Antonio—City, C. M. Chambers, Mayor, has low bid at \$55,946 from Jos. E. Morgan, Milam Bldg., to remodel old market house for community center; Atlee B. & Robt. M. Ayres, Archts., Smith-Young Tower; W. E. Simpson & Co., Engrs., Milam Bldg. 4-2

Dwellings

D. C., Washington—Robt. E. Kline, Jr., Union Trust Bldg., has permit for 7 brick dwellings, 412-24 Seventeenth St., N. E.; 2 stories; total \$35,000.

D. C., Washington—H. T. Lindner has permit for \$10,000 residence, 3213 Rittenhouse St., N. W.; brick, 2 stories.

D. C., Washington—Everett S. Beall, Jr., 1261 N. H. Ave., N. W., has permit for 2 brick dwellings, 1324-28 Michigan Ave., N. W.; 2 stories; total \$14,000.

D. C., Washington—Geo. Diener, 212 13th St., N. E., has permit for \$10,000 residence, 3245 Livingston St., N. W.; masonry, 2 stories.

Fla., Hollywood—Arthur Spiegel, Shelby-

ville, Ind., erect \$25,000 winter residence; Fred Eskridge, Archt., Hollywood; drawing plans.

Fla., Hollywood—Clyde Crimmel, Hartford City, Ind., plans to remodel dwelling.

Fla., Jacksonville—Jacksonville Home Builders, Inc., 110 Elks Bldg., plans number dwellings; construction by owners. See Want Section—Building Material and Equipment.

Fla., Lake City—C. C. Sherrill erect residence, S. Marion St.

Fla., Miami Beach—Paul R. Welch, 1 Hudson St., New York, and Miami Beach, receives bids April 25 for residence, Rivo Alto Island; \$12,000, rein. conc., conc. block and stucco, 2 stories, tile and wood floors, tile roof; Carlos B. Schoeppl, 2382 Alton Rd., Miami, and John & Coulton Skinner, 528 Lincoln Rd., Miami Beach, Asso. Archts.; following invited to bid: J. C. Gaffney Co., 933 Lincoln Rd.; Tropical Homes, Inc., 1108 Lincoln Rd., both Miami Beach; M. R. Harrison Construction Co., N. E. 45th St., Miami. 3-26

Fla., Miami Beach—J. M. Franceschini, Toronto, Can., has low bid at \$55,095 from R. G. Witters Co., 1745 S. W. 6th St., Miami Beach, for residence, garage, servants' quarters, etc., Brickell Ave.; Russell Pancoast, Archt., 1139 Lincoln Rd., Miami Beach. 3-12

Fla., Tavares—W. D. Dillon, Seaboard Air Line Railroad Co., erect residence, Clermont Rd.

Ga., Macon—Mrs. M. S. Cole erect residence, Shirley Hills; brick and field stone, 1 story and basement, conc. foundation, hardwood and tile floors, slate or tile roof; W. Elliott Dunwoody, Archt., 460 Broadway; completing plans.

Md., Baltimore—Harry Glaum, 3404 Kenlon Ave., erect frame residence, 3507 W. Rogers Ave.; 2 stories, 24x26 ft.; E. Earl Howser, Contr., 3404 Kenyon.

Md., Baltimore—Arnold Bros., Sulphur Spring Rd., Halethorpe, erect \$10,000 dwelling, Gibson Island; frame, 2 stories, 26x35 ft.; about ready for sub-bids.

Md., Baltimore—J. P. Dunn, 853 N. Howard St., receives bids April 30 at office Palmer & Lambdin, Archts., 513 N. Charles St., for residence, Homeland; following contractors estimating: L. L. Chambers, Inc., 36th St. and Roland Ave.; Thos. Hicks & Son, 106 W. Madison St.; Tase Norris Co., Inc., 903 Cathedral St.; Frairie Bros., 19 W. Franklin St.; E. A. Cullings, 692 Gladstone Ave.; G. Walter Tovell, Inc., 405 McCulloh St.; Clarence L. Jarvis, 3604 Woodbine Ave.; C. K. Wells, 3538 Old York Rd.; M. L. Robertson, 3408 Chestnut Ave.; C. V. Morgan, 11 E. Fayette St.; Milton C. Davis, 904 W. 36th St. 4-16

Md., Bay Ridge—Annapolis—Erwin F. Kemp, Star Bldg., Washington, D. C., plans cottage, Bay Ridge.

Md., Bay Ridge, Annapolis—Harry L. Gouff, Peoples Ins. Bldg., Washington, D. C., erect cottage.

Mo., Kansas City—C. M. Watkins, Vice Pres.-Sec., Crown Drug Co., 125 E. 31st St., purchased homesite, Overhill Rd. near 63rd St., Mission Hills.

Mo., St. Louis—Burdean Realty Co., 801 Chestnut St., erect brick residence, 7380 Maryland Ave.; 2 stories and basement, 54x25 ft., hardwood floors, tile bath, slate roof, hot water heat, conc. foundation; A. L. Struebig, Archt., 3914 Alberta Ave.; work by sub-contract.

Mo., St. Louis—Helen Overstreet, 4406 Natural Bridge Rd., erect 2 brick dwellings, 5932-36 Floy St.; brick, 1 story, 24x44 ft., asphalt shingle roofs, warm air heat; total \$10,000; A. G. Collier, Archt., 5205 Maffitt St.

N. C., Greensboro—Mrs. Katherine Palmer erect brick veneer residence, N. Elm St. near Macy St.; 2 stories, 44x42 ft., hardwood and pine floors, comp. roof, steam heat; Jos. J. Sawyer, Archt., Jefferson Standard Bldg.

N. C., Winston-Salem—J. B. Dyer, 665 N. Spring St., erect brick veneer residence; 2 stories and basement; Mayers, Murray & Phillips, Archts., 2 W. 47th St., New York; bids in.

Tex., Austin—Theo. Davis, care Nelson Davis & Sons, 107 W. Fourth St., erect \$30,000 residence, frame and stucco, 2 stories, rein. conc. foundation; H. B. Thomson, Archt., Constr. Bldg., Dallas; bids April 18.

Tex., Fort Worth—S. Menchen has permit for \$21,500 residence, 1733 North Blvd.; brick veneer, 9 rooms.

Va., Martinsville—F. D. Townes plans residence, Thomas Blvd.; soon let contract.

Va., Martinsville—Irving Ramsey plans residence, Thomas Blvd.; soon let contract.

Va., Martinsville—A. B. Johnston plans residence, Thomas Blvd.; soon let contract.

Va., Martinsville—C. E. Taylor considers erecting residence.

Va., Norfolk—Sylvan Altschul, 317 Church St., has low bid from S. B. Williamson, Law Bldg., for residence, Meadowbrook; Bernard B. Spiegel, Archt., 254 Granby St. 10-30

Va., Richmond—C. D. Flowers, 1411 Grove Ave., erect residence, Evelyn Byrd Rd., Westover Hills.

Va., Richmond—Mrs. Erna P. Williams and W. G. Puller, Jr., State Planters Bank Bldg., erect duplex, 1506 Palmyra Ave.; 10 rooms, 2 baths.

Va., Richmond—R. L. Figg, Mutual Bldg., erect 2 frame dwellings, 2928-32 Northumberland Ave.; metal garages; total \$11,500.

W. Va., Montgomery—Dr. O. J. Henderson opens bids April 20 for 2 dwellings, First Ave., and 2 on Second Ave.; frame, 2 stories, 22x26 ft., oak floors, brick foundations, comp. shingle roofs; Montgomery & Patterson, Archts., Bk. of Commerce Bldg., Charleston. 3-26

Government and State

Ala., Maxwell Field, Montgomery—Additional firms have plans for 3 double sets non-commissioned officers' quarters, Maxwell Field bids May 1 by Constructing Quartermaster: Crane Co., 1225 I St., Washington, D. C.; McPhillips Manufacturing Co., foot of Lawrence St., Mobile, Ala.; Murphree Pound, Hill Bldg., Columbus, Ga.; Little Construction Co., Builders Bldg., Charlotte, N. C.; Johns-Manville Co., Locust and 17th Sts., St. Louis, Wright Cast Stone Co., Inc., Lorenz Bldg., Mo.; Decatur Iron & Steel Co., Decatur, Ala.; Jackson, Miss.; Cole Manufacturing Co., 789 S. 4th St., Memphis, Tenn. 4-16

D. C., Washington—Prospective estimators on Northeast Branch Library bldg., bids April 29 by District Commr., Dist. Bldg.: W. P. Rose Co., Wayne Natl. Bk. Bldg., Goldsboro, N. C.; Skinner & Garrett, 1719 I St., N. W.; Lee T. Turner, 1366 Perry Place, N. W.; Loudoun-Rust Co., Dist. Natl. Bk. Bldg., all Washington. 4-16

D. C., Washington—Architect of The Capitol, David Lynn, 2700 Quebec, N. W., opens bids May 14 for alterations to C Street Facade Senate Office Bldg., consisting of constr. of free-standing colonnade along C St., about 330 ft. long, projecting about 6 ft. from present bldg.; including excavations, rein. conc. footings and slabs, common brick backing for exterior walls, exterior granite and marble work, copper roofing and flashing, orna. bronze work, repairs to marble floors, changes in plumbing, heating and elect. work; models and carving; carpentry and millwork; plastering, painting and glazing.

Fla., Lake City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids May 14 for post office, etc.; \$125,000. 1-29

Fla., Palm Beach—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected Addison Mizner, 237 Worth Ave., Palm Beach, as architect for \$200,000 post office; site selected. 7-31

Ga., Rossville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., probably receive bids about May 31 for \$75,000 to \$100,000 post office. 12-18

La., Pineville—Quartermaster, Fourth Corps Area, Fort McPherson, Atlanta, Ga., receives bids until May 14 for lodge, Alexandria National Cemetery near Pineville; \$10,000; plans from Quartermaster.

Md., Baltimore—Following contractors estimating on repairs and improvements to 5th Regiment Armory, W. Hoffman St., bids May 1 by Commanding General, Maryland National Guard, Armory Place and N. Howard St.: R. D. Forbes, 733 E. 21st St.; J. Geo. Bensel Co., 3005 Shannon Drive; J. F. Houck, 5509 Gwynn Oak Ave.; L. Sonneborn Sons, 513 W. Lombard St.; Avon Construction Co., Inc., 216 E. Lexington St.; Seacote Roofing Co., 809 Hillen St.; C. H. Henkel, 2740 Edmondson Ave.; R. P. Dobson, Inc., Saratoga and Paca Sts.; Edw. G. Fick & Co., 2008 Herford Ave.; C. W. Schmidt, Hearst Tower Bldg.; David M. Andrews Co., Sisson and 26th Sts.; Wm. E. Gambrill & Co., 213 East St.; E. L. M. Fishpaw, 11 N. Gilmore St.; Liberty Roofing Co., 4318 Park Heights Ave.; L. J. Whalen, 1811 E. North Ave.; Modern Home Building & Improvement Co., 235 W. Read St.; Shubert-Smith Manufacturing Co., 2332 Frederick Ave.; Jas. C. Wilkinson, 501 Arlington Ave.; Wm. B. Norris, Jr., 5300 York Rd.; Edw. J. O'Connell, 2427 Maryland Ave.; Herbert J. West, Knickerbocker Bldg.; Burgtorf Construction Co., 100 Edgevale Rd., Brooklyn Park; Charles T. Brandt, Inc., 1220 Ridgely St.; Sellar Roofing Co., Inc., 517 Sharp St.; Gay Electric Co., 416 N. Green St.; Basil B. Wells, 1617 Frederick Ave.; Stonebrook Corp., 512 St. Paul St.; W. A. Fingles, Inc., 2256 Reisterstown Rd.; Hurwitz Electrical Co., 208 N. Bond St. 4-16

Mo., Kansas City—Prospective estimators on constr. (except elevators, dumbwaiters and mail handling equipment) of \$4,500,000

post office, bids May 15 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt.: Jacobson Bros., 53 W. Jackson Blvd.; Fleisher Engineering & Construction Co., Wrigley Bldg.; Great Lakes Construction Co., 333 N. Michigan Ave.; N. P. Severin Co., 222 W. Adams St.; Ralph Sollitt & Sons Construction Co., 228 N. LaSalle St.; Geo. A. Fuller Co., 32 W. Randolph St.; C. A. Moses Construction Co., Midland Bldg., all Chicago, Ill.; James Mitchell, Inc., Jersey City, N. J.; Skinker & Garrett, 1719 I St., N. W.; English Construction Co., both Washington, D. C.; Murch Bros. Construction Co.; Selden-Breck Construction Co., Fullerton Bldg., both St. Louis, Mo.; Chas. Shudump & Sons Co., 1900 Euclid Ave.; Hunkin-Conkey Construction Co., 1740 E. 12th St., both Cleveland, O.; Thierhalt Contracting Co., 534 E. Johnson St., Philadelphia, Pa.; W. S. Bellows, Okla. Savings & Loan Bldg., Oklahoma City, Okla.; Penker Construction Co., 1031 Summer St., Cincinnati, O.; Seglin Construction Co., Inc., 60 E. 42d St., New York. 4-16

Okla., Miami—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., plans to start work in July on \$235,000 post office and Federal bldg., A St. and First Ave., N. E.

Tenn., Jackson—Col. R. H. Bond, Chmn., Bldg. Comm., receives bids until May 5 for National Guard Armory; plans on file at office Parish & Tuggle, Archts., 314 McCowat Mercer Bldg., Jackson, and Builders Exchange, Memphis. 8-21

Tex., Galveston—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected Bottomley, Wagner & White, 60 E. 42nd St., New York, as architects for \$375,000 immigration station and detention bldg., A, B, 17th and 18th Sts., Galveston Island. 3-12

Tex., Lubbock—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$221,290 from Wm. MacDonald Construction Co., Ry. Exch. Bldg., St. Louis, Mo., for post office and Federal building; low bid at \$15,396 from Otis Elevator Co., Washington, for elevators. 4-9

Tex., Fort Sam Houston, San Antonio—Constructing Quartermaster, Fort Sam Houston, has low bid at \$196,050 from R. E. McKee, 1916 Texas St., El Paso, for 14 company and 3 field officers' quarters. 4-2

Tex., Randolph Field—Constructing Quartermaster cancelled invitation for bids for officers' apartment building. 4-2

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, has low bid from Townsend Lumber Co., N. Towers St., Anderson, S. C., for 3 Air Corps barracks, Langley Field. 4-9

Hospitals, Sanitariums, Etc.

D. C., Washington—Additional prospective estimators on \$240,000 tuberculosis bldg., St. Elizabeth's Hospital, bids April 30 by Department of Interior, Jos. M. Dixon, First Asst. Sec.; York Engineering & Construction Co., York, Pa.; Haughton Elevator & Machine Co., Toledo, O.; Truscon Steel Co., (windows) Hill Bldg.; Adams Construction Co., Woodward Bldg.; Boyle-Robertson, Inc., Evans Bldg.; Skinker & Garrett, 1719 I St., N. W.; Arthur L. Smith & Co., 2537 Pa. Ave., N. W.; Schneider-Spliedt Co., 1416 F St., N. W.; W. G. Cornell Co., 1001 K St., N. W.; (plumbing and heating) David Lupton's Sons Co., (windows), Shorehan Bldg.; David C. Butcher, (brick work), Rust Bldg.; Fidelity Construction Co., 1218 Randolph St., N. E., all Washington; Modern Engineering Co., (p. and h.), 107 E. Pleasant St.; Riggs, Distler & Co., Inc., 216 N. Calvert St., both Baltimore, Md.; General Electric Co., Schenectady, N. Y.; Kane Manufacturing Co., (screens), Kane, Pa.; Warner Elevator Manufacturing Co., 2613 Spring Grove Ave., Cincinnati, O.; D. J. Phipps, Roanoke, Va.; J. S. Thorne Co., 20th and Allegheny Sts., (windows); Atlantic Elevator Co., Erie Ave. and D St.; Ralph S. Herzog, 10 S. 18th St.; American Machinery Equipment Co., (p. and h.), Independence Bldg., all Philadelphia, Pa.; S. M. Siesel Co., 514 E. Ogden Ave., Milwaukee, Wis.; Mesker Bros. Iron Co., 424 S. Seventh St., (material), St. Louis, Mo.; Richmond Fireproof Door Co., (material), Richmond, Ind.; Virginia Machinery & Well Co., Inc., Newport News, Va.; H. R. Blagg Co., 1229 E. Third St., Dayton, O.; Ray A. Phelps (elect.), Beloit, Wis.; C. A. Hooper Co., (heating and ventilating), 453 W. Gilman St., Madison, Wis. 4-16

D. C., Washington—Department of the Interior has plans practically complete for continuous treatment group of bldgs., kitchen and dining room; probably soon complete specifications; preliminary plans drawn for male receiving building. 3-19

Fla., Daytona Beach—Halifax Hospital Bld., Ralph U. Green, member, 120 Orange Ave., purchased Hotel Albert, Second Ave. and Central St., for negro hospital; plans to remodel; sprinkler system, fire escapes, elevator or ramp, remove partitions.

Md., Baltimore—Johns Hopkins Hospital have plans ready about May 1 for \$25,000 animal house above existing bldg.; Archer & Allen, Archts., 3 E. Lexington St.; Van Rensselaer Saxe, Struct. Engr., 217 N. Charles St. 3-12

Mo., Springfield—Burge Hospital, 1323 N. Jefferson Ave., plans to soon start work on \$100,000 fireproof wing and fireproofing present bldg., as first unit of \$265,000 expansion program to include erection of south wing; plans not complete. 6-26

Md., Baltimore—Nursery and Childs' Hospital, John B. Gontrum, Chmn., New Amsterdam Bldg., selected Henry Adams, Inc., Calvert Bldg., as mechanical engineer for hospital; O. Eugene Adams, Archt., 329 N. Charles St.; sketches. 3-12

Miss., Jackson—State, Theo. G. Bilbo, Gov., has bequest of \$250,000 for hospital in Jackson, provided state appropriates similar amount.

N. C., Charlotte—Mercy Hospital, C. A. Williams, Chmn., Bldg. Comm., receives bids April 28 for alterations and additions; \$100,000 fireproof, rein. conc., brick and tile, stone trim, 3 stories and basement, about 40x100 ft., boiler house about 25x25 ft. plus stack, clay tile or other floors, conc. foundation, built-up comp. roof; Chas. C. Hook and Walter W. Hook, Archts., Commercial Bank Bldg., Charlotte; Rev. Father Michael, Consultant, Belmont Abbey, Belmont, N. C.; following contractors estimating: Blythe & Isenhour, 133 Brevard Court; J. A. Gardner, 211½ N. Tryon St.; J. A. Jones Construction Co., Commercial Bank Bldg.; Southeastern Construction Co., 210 W. Second St.; Goode Construction Co., 11 E. Fifth St. 3-5

Tenn., Memphis—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., probably let contract within 60 days for \$175,000 bldg., U. S. Marine Hospital. 9-25

Tex., Beaumont—Sisters of Charity of Incarnate Word, Mother M. Placidus, Superior General, Houston, conferred with Maurice J. Sullivan, Houston, on proposed nurses' home, chapel, sisters' home, hospital wing and remodeling of Hotel Dieu Hospital. 2-5

Tex., Dallas—Governor Ross Sterling, Austin, signed bill authorizing establishment of psychopathic, cancer and pellagra hospital at Dallas.

Tex., El Paso—War Dept., Washington, D. C., authorized expenditure of \$16,666 for new heating plant and addition to building, William Beaumont General Hospital.

Va., Norton—Norton Hospital, Dr. J. A. McGuire, install hardwood floors and complete fourth floor.

W. Va., Huntington—United States Veterans Bureau, Constr. Div., Arlington Bldg., Washington, D. C., opens bids May 5 at Room 764, for grading entrance road and installing pipe culverts, U. S. Veterans Hospital; drawings from Constr. Div.; hospital to cost \$700,000, 152 beds. 1-15

Hotels and Apartments

La., Monroe—Hotel Virginia Co., J. L. Keenan, Pres., expend \$30,000 for improvements including redecorating interior, remodeling plumbing, steam heat and hot water systems.

Tex., El Paso—C. C. Dues, Mgr. of Angelus Hotel, leased hotel and Crawford Theater; remodel properties, which include theater, hotel, two restaurants, barber shop, shoe shop and electrical store.

Ky., Munfordville—C. C. Moxey and associates, Indianapolis, Ind., plan 30-room hotel.

La., Monroe—Hotel Virginia Co., J. L. Keenan, Pres., plans \$30,000 improvements to hotel.

Miss., Liberty—Mrs. Geo. Bates soon begin work on reconstruction of hotel previously damaged by fire; fireproof.

N. C., Wilmington—Meares Harriss, 224 Princess St., Chmn., Comm., promoting organization of company for erection of \$450,000, 4-story, fireproof, Colonial type resort hotel near Silver Lake on Wrightsville Beach Road; having preliminary plans prepared by Michael Stearns, New York; private golf course, yacht basin, polo grounds, drives, etc. 4-9

S. C., Charleston—Fort Sumter Hotel, Roland A. Mumford, Mgr., expend \$25,000 for improvements.

Tex., Dallas—Apartment Service Co. has permit for \$50,000, 2-story and basement apartment, 5744-50 Marquita St.

Tex., Palestine—M. A. Davey erect 25-room annex to O'Neill Hotel; Daley-Moffet Hotel Syndicate, Lessee, Houston.

Miscellaneous

Ark., Monticello—Vera Lloyd Presbyterian Orphans' Home, Mrs. J. G. Williamson, Supt., plans 2-story and basement, 44x96 ft., brick and hollow tile dormitory and administration building; H. Ray Burks, Archt., Wallace Bldg., Little Rock.

D. C., Washington—R. C. Archer, 1759 You St., N. W., preparing plans for \$40,000, 3-story and basement, brick and hollow tile, struc. steel day nursery, Third and G Sts., S. W.; hot water heat, slag roof.

D. C., Washington—Christ Child Society, Miss Mary Merick, Pres., 324 Indiana Ave., N. W., having plans prepared by Donald S. Johnson, Colorado Bldg., for \$75,000, 3-story, 50x140 ft., brick, cinder block and conc. block gymnasium and administration building, vicinity Stanton Park; tile floors, conc. roof, steam heat.

La., New Orleans—Jacob Schoen & Son, 519 Elysian Fields Ave., receive bids April 27 for repairs to brick funeral home; improvements to include gas steam radiators, electric wiring, phone system, metal and comp. roof. Sheetrock, Craftex, tile work, carpentry, millwork, masonry; separate bids for elevator; E. F. Spori, Archt., Vincent Bldg. 4-9

Tex., Austin—State Federation of Women's Clubs, Mrs. James F. Welder, Chmn., Bldg. Comm., 501 N. Moody St., Victoria, having plans prepared by Henry Coke Knight, Wilson Bldg., Dallas, and let contract about June 1 for 3-story, stone and rein. conc., fireproof building; Colonial type, auditorium, library, tea rooms, dormitories. 4-9

Tex., Denton—Ex-Student Assn. of Denton Teachers College erect \$100,000 recreational center, including banquet hall, offices, lounges, roof garden, etc.; Neil Ford, Archt., Dallas.

Tex., Waco—Methodist Orphans' Home begin work soon on 5-room cottage.

Va., Alexandria—Bicentennial Institute, Inc., chartered to act for Chamber of Commerce which is promoting erection of George Washington Memorial Athenaeum; cost \$2,000,000 to \$5,000,000; undertaking will cover period of two to five years for completion; plans in formative stage; James Denson, Director in charge of forming National Comsn.

Railway Stations, Sheds, Etc.

Tex., Fort Worth—Texas & Pacific Ry. Co., E. F. Mitchell, Ch. Engr., Texas and Pacific Bldg., Dallas, erect 2-story, brick, conc. and steel, baggage room and commissary building; cement floors, comp. roof, Kalamain doors, passenger and freight elevators; Wyatt C. Hedrick, Inc., Archt., First Natl. Bank Bldg., Fort Worth; bids in.

Schools

Ala., Tuskegee—Tuskegee Institute, Dr. Wm. Jay Schieffelin, Chmn., Bd. of Trustees, 177 William St., New York City, announces gift of \$300,000 for erection of Thomas A. Edison Engineering Bldg.

Ark., Arkadelphia—Arkadelphia Special School Dist. No. 1, J. H. McMillan, Pres., Bd. of Directors, ready for bids in about 60 days for \$125,000, 2-story and basement, brick and rein. conc., fireproof high school; Petter & McAninch, Archts., Pyramid Life Bldg., Little Rock.

Ark., Arkadelphia—Henderson State Teachers' College Bd. of Trustees plans to begin work in summer on girls' dormitory and library; \$100,000; Erhart & Eichenbaum, 113½ W. Third St., and Petter & McAninch, Pyramid Bldg., both Little Rock, presented plans. 3-12

Ark., Dardanelle—School Bd., Herbert C. Scott, Pres., erect \$100,000 school building.

Ark., Jonesboro—Agricultural and Mechanical College, Dr. V. C. Kays, Pres., ready for bids about May 30 for \$250,000, 3-story, fireproof administration building containing science laboratories, library and chapel; wood, tile and conc. floors, built-up roof, cast stone, dumb waiters, elevators, hardwood, linoleum, terrazzo and tile floors, metal doors, plaster board, rolling partitions, built-up flat roof, gypsum and hollow tile, vaults, vault lights, ventilators, wire glass; plans being prepared jointly by Estes W. Mann, Cotton Exchange Bldg., Memphis, Tenn., and Petter & McAninch, Inc., Pyramid Bldg., and H. Ray Burks, Wallace Bldg., both Little Rock; H. E. Eldridge, Engr. 4-9

Ark., Mena—Polk County Bd. of Education, A. W. Dodson, Supt., erect high school in Rocky Consolidated School Dist.; plans by State Dept. of Education, C. M. Hirst, Statehouse, Little Rock.

Ark., Pindall—Searcy County plans calling election on bonds for 4-room school in Pindall Consolidated School Dist. and high school at Witts Springs; address Searcy County Bd. of Education, Marshall.

Ark., Searcy—Galloway College Bd. of Trustees, J. H. Reynolds, Pres., Conway, plans woman's building and auditorium, and science building.

Ark., Vandervoort—Polk County Bd. of Education, A. W. Dodson, Supt., Mena, erect \$10,000, one-story, brick veneer, 5-room and auditorium high school in Vandervoort Special School Dist.; plans by State Dept. of Education, C. M. Hirst, Statehouse, Little Rock.

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., Dist. Bldg., having plans prepared for \$106,525, 4-room addition to Ben W. Murch School, 36th and Ellicott Sts., N. W.

Ga., Sale City—Sale City Consolidated School Dist. votes May 16 on \$25,000 bonds school building.

Ky., Ashland—Henry N. Foster, Archt., Grand Theatre Bldg., advises that erection of \$200,000 Jr. High School has been postponed indefinitely. 12-18

Ky., Calhoun—McLean County Bd. of Education plans erecting school in Harrison Dist. to replace burned structure.

Ky., Jonesville—Owen County Bd. of Education, Owenston, plans school to replace structure previously noted burned.

Ky., Hopkinsville—Christian County Bd. of Education plans consolidated school building.

Ky., Louisville—University of Louisville, Dr. Raymond A. Kent, Pres., erect \$10,000 gymnasium on Kelknap Campus.

Ky., Madisonville—Bd. of Education ready for bids for \$45,000, one-story, 10-room, auditorium and gymnasium, brick high school.

Ky., Pikeville—Pike County Bd. of Education, Irvin Lowe, Supt., erect \$15,000, 8-room high school; also erect 4-room school on Johns Creek and 8-room building on Pond Creek; all brick.

Ky., White Mills—Hardin County Bd. of Education, M. Lewis, Supt., Elizabethtown, erect 4-room school building.

La., Amite—Tangipahoa Parish School Bd., C. C. Pittman, Supt., having plans prepared by Favrot & Livaudais, Hibernia Bank Bldg., New Orleans, for one and one-half story 95x100 ft., brick school in Eighth Ward; 8 classrooms and auditorium; asbestos shingle roof; \$25,000 bonds voted. 3-12

La., Baton Rouge—East Baton Rouge Parish School Bd., W. H. Perkins, Chmn., Bldg. Comm., receives bids May 11 for one-story, 48x120 ft., brick science building, one-story, 59x114 ft., addition and alterations to 2-story, brick elementary school, repairs to 2-story, brick high school; \$75,000; comp. roofs, wood floors; Lewis A. Grosz, Archt., Raymond Bldg.

La., Bordelonville—See La., Marksville.

La., Evergreen—See La., Marksville.

La., Kitsatchie—Natchitoches Parish School Bd., Natchitoches, receives separate bids May 19 on repairs and 4-room, brick and stucco addition to high school at Kitsatchie, \$20,000; repairs and additions to high school at Cypress, \$15,000; and principal's cottage at Gorum; J. W. Smith & Associates, Archts., Ouachita Natl. Bank Bldg., Monroe.

La., Marksville—Avoyelles Parish School Bd. ordered elections May 19 in following districts: Bordelonville Dist. No. 9, \$30,000; Evergreen Dist. No. 13, \$40,000; Dupont Dist. No. 14, \$15,000; Districts No. 4 and 7 merged (Simmesport and Odenburg), \$35,000.

Maryland—General Assembly authorized \$590,000 bonds, to be issued Aug. 15, to be used in part: Frostburg Normal School, \$31,000; Maryland Training School for Boys, Loch Raven, \$80,000; Maryland School for Colored Girls, Melrose, acquisition of site and erection of building, \$150,000.

Md., Baltimore—Bd. of Public Improvement Comms., H. J. Leimbach, Supvz. Engr., rebuild main building of Baltimore Parental School, Kenwood Ave. and Maiden's Choice Lane, noted damaged by fire.

Md., Baltimore—Following additional contractors estimating on \$150,000, 3-story, brick, 8-classroom Forest Park Jr. High School, bids April 29 by Bd. of Public Improvement Comms., H. J. Leimbach, Supvz. Engr.: J. L. Robinson Construction Co., 522 Park Ave.; J. Henry Miller, Eutaw and Franklin Sts.; M. A. Long Co., 10 W. Chase St.; Cramp & Co., 333 St. Paul Pl.; North-Eastern Construction Co., 6 W. Madison St.; G. Walter Tovell, 405 McCullough St.; all Baltimore; McCoskey & Co., 1620 W. Thompson St.; Wm. Langhorne Co., 1904 Parrish St., both Philadelphia; Pa.: Smith & May, Archts., Baltimore Trust Bldg.; Kubitz & Koenig, Struc. Engrs., Emerson Tower Bldg.; Henry Adams, Mech. Engr., Calvert Bldg. 4-16

Md., Laurel—District Commrs., Dist. Bldg., Washington, D. C., receive bids May 4 for \$130,000, 2-story, brick domestic service building, including kitchen, laundry, etc., at District Training School; contents 422,000 sq. ft.

Miss., Fayette—Jefferson County Bd. of Supervisors called election May 2 in Special Consolidation School Dist., known as United Vocational School, on \$20,000 bonds for school buildings.

Miss., Jackson—Millsaps College, Dr. D. M. Key, Pres., selected H. N. Austin, Daniel Bldg., for \$75,000, brick and tile gymnasium; stone trim, comp. roof, struc. steel. 2-26

Miss., Poplarville—Pearl River County Agricultural High School and Junior College Bd. of Trustees receives bids at office County Supt. of Education, for installation of boiler and construction of floor and retaining wall in boiler room; plans at office S. L. Stringer, Pres. of college.

Miss., Washington—Jefferson Military College, Gerard Brandon, Sec., receives bids Apr. 27 for one-story, brick dormitory; R. E. Bost, Archt.

Mo., Eldon—Bd. of Education, Henry Roy, Sec., having plans prepared by T. W. Bast, Joplin, for \$75,000, brick and conc. high school. 4-9

Mo., Hollister—Hollister Consolidated School Dist. voted \$21,000 for school building.

Mo., Portageville—Bd. of Education, Wm. Largent, Sec., having preliminary plans prepared by R. Z. Gill & Co., 1328½ Walnut St., Murphysboro, Ill., for \$25,000, 2-story and basement, brick and conc. high school; comp. roof, steam heat.

Mo., Overland, St. Louis—Ritenour School Dist., W. S. McAdoo, Pres., has low bid at \$16,460 from Winton Barker, Jr., 1106 Tamm Ave., St. Louis, for 2-story and basement, 34x60 ft., brick grade school; also at \$16,636 from Mr. Barker for 2-story and basement, 36x68 ft., brick addition to high school, 8740 Forest Ave.; Wm. B. Ittner, Inc., Archt., Continental Life Bldg., St. Louis, 3-5

Mo., Salem—Bd. of Education, T. P. Dent, Sec., soon let contract for \$40,000, one-story and basement, brick and conc., 8-classroom and auditorium high school; Hawkins & Nicholas, Archts., McDaniel Bldg., Springfield.

N. C., Edenton—Chowan County Bd. of Education, R. H. Blackman, Sec., Citizens Bank Bldg., ready for bids in May for \$20,000, one-story, brick veneer school; brick foundation, hardwood floors, asbestos roof, rolling partitions. See Want Section—Building Material and Equipment. 4-16

Okla., Harrah—Bd. of Education, O. G. McClurg, Pres., having plans prepared by Ed Peters, Shawnee, and let contract about June 1 for \$50,000, one-story, 225x60 ft., brick school to replace recently burned structure; hardwood and tile floors, built-up roof, rolling partitions, gypsum tile, ventilators, wire glass. 4-16

Tex., Beeville—Pawnee Common School Dist. plans \$25,000 school and Benham County Line School Dist. erect \$5000 building; M. A. Wroten, Supt., Bee County Bd. of Education.

Tex., Hunt—Hunt Ind. School Dist., J. T. Moore, Pres., School Bd., erect \$25,000, brick, tile and rein. conc., 7-room and auditorium school; Adams & Adams, Archts., Western Natl. Bldg. 1-8

Tex., Jasper—Jasper County Bd. of Education, J. J. Miller, Supt., consolidate Peachtree and Beech Grove school districts and erect school; election soon on bonds.

Tex., Mercedes—Mercedes Ind. School Dist., R. H. Kerns, Pres., Bd. of Trustees, receives bids May 4 for one-story, brick, tile and rein. conc. gymnasium and cafeteria building; R. Newell Waters, Archt., Weslaco; W. E. Simpson Co., Engrs., Milam Bldg., San Antonio. 1-29

Tex., Refugio—Refugio Ind. School Dist. votes April 29 on \$100,000 bonds for school building; Dielmann & Levy, Archts., State Natl. Bank Bldg., Corpus Christi. 3-19

Tex., Rio Grande—Rio Grande Ind. School Dist., Oscar T. Vale, Sec., School Bd., receives bids May 11 for \$40,000, one-story, brick and rein. conc. grammar school; have plans ready about May 12 for \$60,000, 2-story, brick and rein. conc. high school; R. Newell Waters, Archt., Weslaco; W. E. Simpson Co., Engrs., Milam Bldg., San Antonio. 2-26

Tex., Savoy—Town votes April 29 on \$15,000 bonds for school building.

Tex., Silsbee—City voted \$60,000 bonds for 8-classroom, library and auditorium high school; stucco, stone trim; Livesay & Weidemann, Archts., San Jacinto Life Bldg., Beaumont. See Want Section—Building Material and Equipment. 3-26

Va., Falmouth—Stafford County School Bd. erect building; plans by Raymond V. Long, Archt. for State Bd. of Education, Richmond; bids in.

Va., Port Richmond—Blessed Sacrament Roman Catholic Parish, Rev. J. S. Laubowski, Pastor, erect 120x102 ft., one-story, 4-classroom, library, office and auditorium school and 2-story, 40x33 ft. convent; A. Byron Williams, Archt., Citizens & Marine Bank Bldg., Newport News. 4-2

Va., Roanoke—St. Andrew's Catholic Church, Father T. B. Martin, Rector, receives bids April 28 for \$45,000, 2-story, fireproof high school and \$35,000 orphanage; A. Byron Williams, Archt., Citizens & Marine Bank Bldg., Newport News. 4-2

Stores

Ala., Toulminville—Greer's Inc. erect one-story, brick store to be leased to Kirkland Drug Co., Inc.

Ark., Success—Tezzie Smith erect store to replace structure noted burned at loss of \$20,000.

Ark., Texarkana—C. W. Burton, 1101 Locust St., and A. C. Ward, 2326 State Line Ave., plan \$15,000, brick and conc. store building, W. 7th and Waterfall Sts.

D. C., Washington—Mrs. Lillian Douglas, care W. S. Plager, Archt., 1930 Kearney St., N. E., has low bid from Thos. F. Jones, 511 E St., N. W., for one-story, limestone and brick store, 5023 Connecticut Ave., N. W.; slag roof, plate glass; Great Atlantic & Pacific Tea Co., Lessee, 801 Channing Place, N. E. 4-16

D. C., Washington—Mrs. B. B. Horn, care W. S. Plager, Archt., 1930 Kearney St., N. E., has low bid from E. E. Ward & Son, 3663 11th St., for 2-story, brick shop building, 829 14th St.; slag roof, steam heat. 4-9

Ga., Atlanta—Following contractors estimating on one-story and basement, 25x32 ft., brick, conc., struc. steel and tile addition to store, 225-7 Peachtree St., for Whitehead Realty Co., Frosin's Shop, Lessee, date bids to be announced in few days: George A. Clayton Co., Bona Allen Bldg.; Wagor & Co., Norris Bldg.; Williams Construction Co., Red Rock Bldg.; Smith-Pew Const. Co., 435 Irwin St., N. E.; Norwood Griffin Co., Bona Allen Bldg.; Flagler Co.; T. C. Wesley & Son, both Red Rock Bldg.; Capitol Construction Co., Standard Bldg.; W. P. Francis, 201 Luckie St., N. W.; Gilbert Beers; Shelverson Construction Co., Bona Allen Bldg.; Brazell, Miller & Newbanks, Norris Bldg., all Atlanta; Pringle & Smith, Norris Bldg. 4-16

Ky., Graham—W. G. Duncan Coal Co., Greenville, having plans prepared for \$15,000, one-story and basement, 35x85 ft., brick store addition; comp. roof, conc. and wood floors, steam heat; Joseph & Joseph, Archts.; Walter C. Wagner, Asso. Archt., both Breslin Bldg., Louisville.

La., Tallulah—J. Abrom ready for bids for 60x75 ft., one-story store and apartment; built-up comp. roof; J. W. Smith & Associates, Archts., Ouachita Natl. Bank Bldg., Monroe.

Md., Baltimore—Wm. E. Davis, 1427 Mt. Royal Ave., ready for bids about May 1 for addition and alterations to 2-story, brick store and apartment, 3900 block Roland Ave.; John R. Forsythe, Archt., 16 E. Lexington St.

Mo., Springfield—Ralph Mack, 761 Cherry St., and others plan \$12,000, one-story, 28x46 ft., brick and conc. commercial building, Elm Blvd.; Eugene F. Johnson, Archt., McDaniel Bldg.

N. C., Asheville—T. S. Morrison & Co., 40 Broadway, advise that they do not plan improvements to building, 39-41 Lexington St., at present time; prob. next Feb. before work will be undertaken. 4-16

N. C., Winston-Salem—Thurmond Chatham, Country Club Road, erect \$100,000, 2-story and basement, 140x90 ft., struc. steel, tile and stone veneer and brick, fireproof 5-story building, 4th and Cherry Sts.; Harold Macklin, Archt., Reynolds Bldg. 11-6

Tex., Dallas—C. H. Hickman has permit for \$11,000, one-story, brick store, 1013-17 Davis St.

W. Va., Gary—Harris, Woods & Co., A. N. Harris, erect 3-story, fireproof department store to replace structure recently burned at loss \$100,000.

Theatres

D. C., Washington—Warner Brothers, H. M. Warner, Pres., 321 W. 44th St., New York, receive bids May 5 for one-story, brick, cast stone theater, 640-54 Pennsylvania Ave., S.

E.; seat 1800 people; John Ebersson, Archt.; Ruderman & Severud, Struc. Engr., both 370 Lexington Ave., New York; following contractors estimating: R. P. Whitty Co., Denrike Bldg.; C. Wohlgenuth, Jr., 1800 E St., N. W.; Geo. Hyman Construction Co., 1010 Vermont Ave., N. W.; Boyle-Robertson, Inc., and Wm. A. Kimmel, both Evans Bldg.; Wm. P. Lipscomb Co., 1406 G St., N. W.; Skinker & Garrett, 1719 Eye St., N. W.; Schneider

Spliedt Co., 1416 F St., N. W.; A. L. Smith & Co., 2539 Pennsylvania Ave., all Washington; Golder Construction Co.; Juniper and Market Sts., Philadelphia, Pa.; O'Day Construction Co., 1697 Broadway; Babor-Comeau & Co., 70 E. 45th St.; MacDonald Spencer Engineering Co., 420 Lexington Ave.; Fred F. French Co., 551 Fifth Ave., all New York; Consolidated Engineering Co., 20 E. Franklin St., Baltimore. 4-16

BUILDING CONTRACTS AWARDED

Association and Fraternal

Tex., Fort Worth—Masonic Temple Builders' Assn., W. S. Cooke, member, 2291 Weatherbee St., let contract to Harry B. Friedman, First Natl. Bank Bldg., for superstructure of \$1,000,000 temple, Henderson St. and W. Lancaster Ave.; heating and ventilating, Montrief & Montrief, 307 W. 13th St.; plumbing, Beach Plumbing & Heating Co., 300 S. Main St.; stone and rein. conc., 4 stories and basement, 167x120 ft., orna. iron, marble, wainscot, tile entrance, terrazzo floors, steel sash; W. G. Clarkson & Co., Archts., 610 First Natl. Bk. Bldg. 4-2

Bank and Office

Ga., East Point—First National Bank of Atlanta, 25 Pryor St., N. E., Atlanta, John K. Ottley, Pres., remodel interior and enlarge branch bank; Pringle & Smith, Archts., Norris Bldg.; J. P. Womack & Sons, Lakewood Ave. and R. R., both Atlanta.

La., LaPlace—E. L. Markel, 3833 Louisiana Pkwy., New Orleans, has contract to erect bank bldg.; 1 story; receiving sub-bids on wiring, elect. fixtures, sheet metal work, lumber, plastering, cabinets, marble, plumbing, tile work, comp. roof, grilled windows, plate glass, etc.

La., New Orleans—Woodward Wight & Co., Ltd., 451 Howard Ave., has hardware contract for \$150,000 annex to bldg. of Standard Oil Company of Louisiana; fire escape, Canal Steel Works, Inc., 2126 Poland St.; kalamein doors, American Sheet Metal Works, 331 N. Alexander St.; Venetian blinds, J. T. Mann Co., Inc., 319 Dryades St.; plans by Construction Dept., R. A. Riddle, Ch. Engr.; W. Horace Williams Co., Inc., Contr., 833 Howard Ave. 4-16

Md., Baltimore—Central Savings Bank, Lexington and Charles Sts., remodel bank; stone; Van Rensselaer Saxe, Struct. Engr., 217 N. Calvert St.; Archer & Allen, Archts., 3 E. Lexington St.; M. A. Long Co., Contr., 10 W. Chase St.; plans not complete. 3-12

Tex., Henderson—First National Bank erect 2 additional stories to bldg.; 40 offices; J. E. Russell, Contr.

Churches

Ga., Atlanta—First Presbyterian Church, 1328 Peachtree St., N. E., let contract to J. P. Womack & Son, Lakewood Ave. and R. R., for alterations to chapel, 16th and Peachtree Sts.; panelling, pews, organ, etc.; \$10,000; Cooper & Cooper, Archts., Forsyth Bldg. 3-5

Ga., Atlanta—Morningside Baptist Church, Rev. G. J. Davis, Pastor, 1423 Gloré Place, N. E., let contract to J. W. Patterson, 1307 Morningside Drive, N. E., for frame addition; 1 story and basement, 65x60 ft., wood joists, comp. roof, wood floors, hot air heat; Jess Wilhoit, Archt., Mtg. Guar. Bldg. 4-2

Tenn., Nashville—Hillsboro Church of Christ erect \$35,000 bldg. under supervision of Leroy Davis; brick, stone and conc., 2 stories and basement, 36x69 ft. with 40x73 ft. wing; auditorium, 11 classrooms; Geo. D. Waller, Archt., Ind. Life Bldg. 3-12

City and County

Ala., Clanton—Chilton County Bd. of Revenue let contract to Moore & Wooley, 713 S. 27th St., Birmingham, for jail remodeling and addition; cell work, Southern Prison Co., 2109 N. Fifth Ave., Birmingham; Frank Lockwood, Archt., 119 Adams Ave., Montgomery. 11-20

Tex., Beaumont—Jefferson County Commrs. Court let contract at \$37,485 to Pauly Jail Building Co., St. Louis, Mo., for jail equipment in \$1,000,000 court house; Fred C. Stone, Goodhue Bldg., and A. Babin, Perlestein Bldg., architects. 3-19

Dwellings

Ala., Birmingham—J. D. Chichester, 13 N. 21st St., erect \$13,000 residence, Tenth Ave. and 43rd St.; brick veneer, 2 stories, slate roof, steam heat; day labor.

Ala., Union Springs—E. J. Pierce probably start work in few days on \$25,000 residence; day labor; brick, Indiana or Alabama limestone trim, 2 stories and basement, 40x70 ft., 3 baths, tile wainscoting, Ambler or Johns-Manville asbestos shingle roof, hardwood and tile floors, steam heat; Frank Lockwood, Archt., 119 Adams St., Montgomery. 10-30

D. C., Washington—Breuninger & Phifer, 1103 Vt. Ave., N. W., have permit for 5 brick dwellings, 3812-18 20th St., N. E., and 1935 Quincy St., N. E.; 2 stories; total \$33,500; owners build.

D. C., Washington—W. C. & A. N. Miller, 1119 17th St., N. W., have permit for 13,200 dwelling, 4304 Forest Lane, N. W.; 3 stories, brick and frame; owners build.

D. C., Washington—Paul P. Stone, Inc., 1103 Vermont Ave., N. W., erect 2 brick and frame dwellings, 3414-16 Morrison St., N. W., after plans by Chas. E. Dillon; 2½ stories; total \$14,000; owner builds. 4-16

D. C., Washington—Columbia Construction Co., 521 Irving St., N. W., erect \$13,000 dwelling, 704-06 Concord Ave., after plans by F. G. Wilson; 2 stories, conc. block, stone and brick, slate roof, hot water heat; owner builds. 4-16

D. C., Washington—Boss & Phelps, 1416 K St., N. W., erect 75 dwellings, Colony Hill, Foxhall Village; Early American and Georgian types; Horace W. Peaslee, Archt., 1228 Conn. Ave., N. W.; Miss Rose Greely, Landscape Archt., 1623 H St., N. W.; owners build; lately noted to have permit for 4 dwellings on Hoban Rd. 4-16

Fla., Cocoa—W. H. Alford, Kenosha, Wis., erect \$15,000 residence, Georgiana, Merritt Island; 2 stories, 8 rooms; W. H. Bower, Contr., Rockledge.

Fla., Hialeah—H. R. Howell, Deer Park, let contract to J. Y. Gooch & Co., Bedford Bldg., N. E. First St., Miami, for residence, garage, servants' quarters, etc.; \$40,000, cast stone, rein. conc., conc. block and stucco, 2 stories, hardwood floors, tile, elect. refrigerators, tile roof; V. H. Nellenbogen, Archt., 925 Lincoln Rd., Miami Beach. 3-19

Fla., Miami Beach—W. Scott Green, Lenox Ave., let contract on cost plus basis to Wm. S. Green Co., 20th St., for \$15,000 residence; conc. block and stucco, 2 stories, 38x75 ft., tile and oak floors, wood piling, elect. refrigerator, steel sash, tile hip roof; furnishings, equipment, etc., \$3000; Alexander Lewis, Archt., Lincoln Rd. Patio; Belsham-Jargensen, 2nd, Schreffler, Archts., Calumet Bldg. 3-26

Fla., Miami Beach—Mrs. Mattie S. Bass, care J. L. Bass, 5327 N. Bay Rd., let contract at about \$17,000 to St. John Construction Co., 629 N. W. Seventh St., Miami, for residence, garage, etc., Alton Rd. near 60th St.; John N. Bullen, Archt., 607 Exchange Bldg., Miami. 4-9

Ga., Atlanta—R. M. Guthrie, 820 Moreland Ave., erect brick veneer residence, 1156 Cumberland Rd., N. E.; 1 story, 6 rooms and bath, comp. shingle roof; owner builds.

Ga., Atlanta—J. W. Dobbins, 1014 Clairmount Ave., erect brick veneer residence, 1058 Rosewood Drive, N. E.; 1 story, 7 rooms and bath, hardwood and tile floors, comp. shingle roof, hot air heat; owner builds.

Ga., Austell—J. A. Moon Plumbing Co., 204 Pendleton St., Greenville, S. C., has plumbing contract for 60 operatives' dwellings for Clark Thread Co.; brick, Merry Bros. Brick & Tile Co., Marion Bldg., Augusta, Ga.; cement, Penn-Dixie Cement Corp., James Bldg., Chattanooga, Tenn., and Southern Cement Co., Birmingham, Ala.; J. E. Sirrine & Co., Engrs.; Fiske-Carter Construction Co., Contr., both Greenville. 4-16

Ga., Macon—J. T. Lattimore erect \$18,000 residence; W. E. Dunwoody, Jr., Archt., 460 Broadway; W. A. Stillwell & Sons, Contrs., Grand Bldg.

Ga., Newnan—E. T. Owens, care Owens Furniture Co., let contract for \$20,000 residence to Ball & Hyde; brick veneer, conc. foundation, 2 stories and basement, hardwood floors, tile baths, tile porches, steam heat; David S. Cuttino, Archt., Healey Bldg., Atlanta. 2-26

La., New Orleans—D. E. McDonald, Pass Christian, Miss., let contract at \$14,315 to Hyman Rabinovitz, 740 Poydras St., New Orleans, to convert dwelling, Exposition Blvd. and Corali St., into duplex; A. S. Montz, Archt., 740 Poydras. 4-9

La., New Orleans—A. E. Blackmer, 3107 State St., erect duplex, State St. Drive extension; slate roof, sheet metal work, oak floors, screens, tile work; Paul G. Charbonnet, Contr., 830 Union St.

La., New Orleans—Geo. J. Stoll, Jr., 2510 Eads St., erect double residence; ready for sub-bids on wiring, sheet metal work, asbestos roofing, millwork, bldg. material, etc.

La., New Orleans—Thos. Capo, Jr., 718 Welblen Place, erect double residence, Pontalba and Vicksburg Sts.; receiving sub-bids for sheet metal work, millwork, rein. steel, screens, etc.

Md., Baltimore—Rittenhouse Realty Co., 503 Chapel Gate Ave., erect 4 frame dwellings and garages, 2610-16 Rittenhouse Ave., after plans by Fred. Mohre, Archt.; 1½ stories, 22x26 ft., steam heat; owner builds. 4-9

Md., Baltimore—Malcolm Hecht, care Hecht Bros., Baltimore, Pine & Redwood Sts., erect stone and stucco residence, Ridge Terrace, Dumbarton; 14 rooms, 4 baths, 3-car garage; Edgar A. Levi, 2309 Sulgrave Ave., Contr.

Md., Baltimore—Edgar A. Levi, 2309 Sulgrave Ave., Bldr., erect stone and brick dwelling, Crossland Rd. and Fairway, Dumbarton; 11 rooms, 4 baths; also erect stucco and tile dwelling, Overbrook Rd., Dumbarton; 10 rooms, 3 baths.

Md., Baltimore—John Welsh, 11 E. Fayette St., has permit for 40 dwellings and garages, 5118-40 and 5210-22 Edmondson Ave., 621-51 Stamford Rd. and 5125-39 Greenwich Ave.; brick, 2 stories, 20x30 ft. and 10x18 ft.; also for 7 dwellings and garages, 3221-23 Burleigh Ave., and 12 at 1400-22 Rosedale Rd.; Geo. Wessel, Archt., 601 W. 40th St.; total \$115,000; owner builds.

Md., Baltimore—John E. Richards Co., Dogwood Rd., Woodlawn, erect 3 brick dwellings, Hunting Ridge; 2½ stories; Geo. Wessels, Archt., 601 W. 40th St.; owner builds.

Md., Baltimore—Talbot & Boschert, American Bldg., erect 6 brick dwellings and garages, 3000 blocks Pinewood and Westfield Aves.; 2 stories; total \$16,000.

Md., Baltimore—Frank Novak Realty Co., 33rd St., erect 6 brick double dwellings and garages, 2203-25 Chesterfield Ave. and 23 2-story porch-front dwellings, 3300-44 Chesterfield; total \$105,000; owner builds.

Md., Baltimore—Robinson-Slagle Co., Bldrs., Argonne Drive and Roundhill Road, erect 5 brick dwellings and garages, 1105-1120 Argonne Drive, 1217-1229 Round Hill Rd. and 4126 Westview Rd., all Northwood; 2½ stories; total \$50,000; John A. Ahlers, Archt., 529 N. Charles St.; owners build.

Md., Baltimore—Talbot & Boschert, 2910 Berwick Ave., started work on ordinary brick dwellings, 5311-17 Pinewood Ave.; 1 story, 28x43 ft., hardwood floors, conc. footings, asphalt shingle roofs; Milton J. Strickroth, Archt., 26 N. Milton Ave.; owners build.

Mo., St. Louis—F. Price, care Klingensmith & Grover, Archts., 1217 Louderman Bldg., erect brick residence, Antler Drive, Lake Forest; 2 stories and basement, 80x39 ft.

Mo., St. Louis—C. G. Galle, 6215 Itasca St., erect \$14,500 residence; brick, 2 stories, 40x46 ft., slate roof, furnace heat; L. Hager, Archt., 3844 Utah St.; Geo. Moeller Construction Co., Contr., 3520 Itasca.

Mo., St. Louis—Frank Hortleder, 1538 Mississippi St., erect 2 brick dwellings, 5223-27 Winona St.; 1 story, 26x46 ft., asphalt shingle roofs, hot air heat; total \$10,000; plans and constr. by owner.

Mo., St. Louis—Robt. E. Swift, 6208 Rosebury Ave., let contract for brick residence, Fordyce Tract, to E. A. Brunson Construction Co., Ry. Exch. Bldg.; 2 stories and basement, 57x57 ft.; Smith & Gauger, Archts., 514 Louderman Blvd. 3-26

Mo., St. Louis—K. E. Ward, 5021A Page

St., erect 2 brick dwellings, 5300-04 Pernod St.; 1 story, 27x44 ft., asbestos shingle roofs, hot air heat; total \$10,000; owner builds.

Mo., St. Louis—E. Elam, 806 Chestnut St., erect 5 brick dwellings, 6723-39 Oleatha St.; 1 story, 27x45 ft., comp. shingle roofs, hot water heat; total \$24,000; Geo. C. Karr, Archt.-Contr., 3525 Watson St.

Tenn., Memphis—Leroy King, 2714 Lombardy Place, Chickasaw Gardens, erect \$100,000 brick and stone residence, Park Ave. and Cherry Rd.; 2 stories and basement, hardwood and Flexatite floors, rubber tile baths, misc. iron and steel; Bryant Fleming, Archt., 1018 Dryden Rd., Ithaca, N. Y.; John W. Johnson, Contr., Central Ave., Normal, Memphis.

Tenn., Nashville—J. P. Williams, 1214 Lischey Ave., erect 3 frame dwellings, 893-97 Petway Ave.; 1 story and basement, comp. roof; total \$12,000; day labor.

Tex., Longview—Harry S. Turner, Box 150, let contract to Bracy Construction Co. for \$12,000 brick veneer residence, Nuggett Hill Addition; framed; 2 stories, 46x54 ft., hardwood floors, conc. Flintkote roof; furnishings, equipment, etc., \$2500; plans by Buford Bracy. 4-16

Tex., Fort Worth—B. B. Adams, 913 First Natl. Bk. Bldg., erect \$12,000 residence, garage and servants' quarters, Lofton Terrace, Park Hill; brick veneer, 1 story and basement, 47x62 ft., oak floors, slate roof, hot air heat, 3 tile baths; Wilford S. Bogue, Archt., Wheat Bldg.; owner builds.

Tex., Longview—Grace & Meadows started work on 17 brick dwellings.

Va., Richmond—Dr. John L. Fairly, 3212 Chamberlayne Ave., let contract to B. W. Showalter, 2820 Hawthorne Ave., frame, 2 stories, wood floors, slate roof, brick foundation; Courtney S. Welton, Grace Amer. Bank Bldg.; excavation completed. 4-9

Va., Richmond—E. J. Keegan, Real Est. Exch. Bldg., erecting \$15,000 brick residence, Rugby Rd.; 3 stories, 38.6x37.5 ft., oak, linoleum and tile floors, brick foundation, slate hip roof; H. C. Messerschmidt, Archt., Mutual Bldg.; Jos. F. Black, Contr., 105 Libby Ave. 4-9

Va., Fieldale—Carolina Cotton & Woolen Mills Co., Inc., let contract at \$19,425 to John W. Smith for 15 dwellings; frame, 4 to 6 rooms.

Government and State

La., Barksdale Field, Shreveport—Constructing Quartermaster, Barksdale Field, let contract at \$462,457 to Ashton Glassell, Inc., 260 Cadillac St., for 42 company officers' quarters, and at \$419,350 to same firm for 1 barrack bldg. for 330 men, 1 for 200 men and 1 for 163 men. 4-16

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, Va., reported, let contract at about \$250,000 to Townsend Lumber Co., Anderson, S. C., for 20 double non-commissioned officers' quarters, Langley Field. 4-9

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, Va., let contract at \$353,620 to M. H. Sobel Co., 1031 First Natl. Bank Bldg., Detroit, Mich., for 16 double company officers' quarters, Langley Field; work starting; brick and wood joist, 2 stories and basement, 106x30 ft. each, wood floors, conc. foundation, tile roofs; following sub-contracts let: Steam heat, oil burning, and plumbing, Chas. T. Taylor, 17 S. King St., Hampton, Va.; elect. work, Warner Service Co., 102 W. Church Ave., Knoxville, Tenn.; roofing and sheet metal, Arrow Roofing & Sheet Metal Works, 5100 St. Jean St.; steel sash, Detroit Steel Products Co., 605 Stevens Bldg.; millwork, Long Bell Lumber Sales Corp., 4550 Maybury Grand, all Detroit, Mich.; glass and glazing, Building Supplies Corp., 1900 Monticello Ave., Norfolk, Va.; dampproofing and caulking, Guaranteed Waterproofing Co., P. O. Box 1474, Greensboro, N. C.; steel and iron, Richmond Structural Steel Co., Inc., 17th & Dock Sts., Richmond, Va. See Want Section—Building Material and Equipment. 4-9

Va., Quantico—S. Blickman, Inc., Weehawken, N. J., has contract at \$33,850 for galley equipment, Marine Barracks. 3-26

Hospitals, Sanitariums, Etc.

Ark., Benton—Arkansas Construction Co., Jos. M. Hill, Chmn., Little Rock, let contract at about \$304,500 to Wm. Peterson, Donaghey Bldg., for 9 bldgs. for second unit of Farm Colony for \$3,250,000 State Hospital for Nervous Diseases, Saline County; plumbing and heating, Himstedt Plumbing & Heating Co., 208 Louisiana St.; wiring, O. K.

Electric Co., North Little Rock; kitchen equipment, Bracy Bros. Hardware Co., 1513 Main St.; refrigeration, York Ice Refrigeration Co., 3020 W. Capital St., all Little Rock; Mann, Wanger & King, Archts., 1316 Donaghey Bldg., Little Rock; Sullivan W. Jones, Consit. Archt., 25 W. 45th St., New York; Lund Engineering Co., Engr., Home Ins. Bldg., Little Rock. 4-2

D. C., Washington—Wm. Wilson Co., Bona Allen Bldg., Atlanta, Ga., has painting contract for \$325,000 nurses' home for Gallinger Municipal Hospital; plans by A. L. Harris, Municipal Archt.; W. P. Rose Co., Inc., Contr., Wayne Natl. Bank Bldg., Goldsboro, N. C. 1-29

Mo., St. Louis—City let contract to Murch Bros. Construction Co., 1855 Ry. Exch. Bldg., for \$600,000 nurses' home, City Hospital; fireproof, 6 stories and basement, 98x244 ft., hardwood, terrazzo and linoleum floors, conc. piers, flat comp. roof, limestone, marble, metal doors, gypsum and hollow tile, terra cotta trim, wire glass, brass and bronze work; Albert Osburg, Archt., 3654 Meramec St.; L. R. Bowen, Engr., 301 City Hall. 3-26

Tex., Bryan—Drs. Searcy and Wilkinson let contract for \$23,000 clinic and hospital, 27th St. and Tabor Ave., to Abilene Construction Co., Abilene; work started; brick and hollow tile, 2 stories, 53x62 ft., terrazzo floors, conc. foundation; 20-yr. built-up roof; furnishings, equipment, etc., \$11,000; Gabe Lewis, Archt., Bryan. 3-5

Tex., Waco—Laclede Steel Co., Arcade Bldg., St. Louis, Mo., has contract for 600 tons rein. steel for \$1,500,000 U. S. Veterans Hospital; Henry B. Ryan Co., Contr., 500 N. Dearborn St., Chicago, Ill. 3-26

Va., Norfolk—Edw. T. Friend, 618 W. 31st St., has contract at \$11,350 for interior and exterior painting, Marine Hospital.

Hotels and Apartments

Fla., Miami Beach—Wm. F. Brown, 631 Washington Ave., preparing plans for \$12,500, 2-story, rein. conc., conc. block and stucco, 4-apartment building, Drexel Ave.; owners prob. build; day labor.

Okla., Norman—Following sub-contracts awarded on \$250,000, 6-story, rein. conc., 80-room hotel under construction (basement and first floor slab completed) for Aldridge Hotel Co., Wewoka: Brick, Wewoka Brick & Tile Co.; Wewoka; terrazzo, Standard Terrazzo Mosaic Co., 819 E. Third St., Tulsa; tile work, Standard Roofing & Metal Co., 24th & Broadway; millwork, Kilpatrick Brothers Co., 820 W. Fourth St.; stone, Algonite Stone Mfg. Co., East Park & Irving Sts.; rock and sand, Dolese Brothers Co., 11 W. 13th St., all Oklahoma City; Barbour & Short, Gen. Contrs., Norman; Guy A. Reid, Archt., Oklahoma Savings & Loan Bldg., Oklahoma City. 3-5

Miscellaneous

Ga., Atlanta—J. D. Butler Construction Co., 111 Walton St., N. W., has contract for frame barn for Governor's Horse Guards, Piedmont Road; Scott Hudson, Chmn., Atlanta Athletic Club; Pringle & Smith, Archts., Norris Bldg. 4-16

Md., Baltimore—Carlin's Park, John J. Carlin, Reisterstown Road and Park Heights Ave., erect \$25,000, one-story, 150x120 ft., brick dance hall; owner builds; Stanislaus Russell, Archt., 11 E. Lexington St., taking bids on brick; Kubitz & Koenig, Struc. Engrs., Emerson Tower Bldg., ready for bids on struc. steel roof trusses.

Mo., St. Louis—Kutis Undertaking Co., Thos. F. Kutis, 2906 Gravois Ave., erect \$50,000, 2-story and basement, brick and conc. funeral home, Gravois Ave. and Crittenden St.; Robert Paulus Construction Co., Contr., 2205 Ann Ave.; Rudolph Weinberger, Archt., 2043 Allen Ave. 1-29

Mo., St. Louis—Charles F. Stuart, 5525 Easton St., has permit for \$20,000, 2-story, 56x76 ft., brick mortuary, 1225 N. Union St.; tar and gravel roof, vapor heat; H. Dilschneider Real Estate & Building Co., Bldr., 7914 Kingsbury St.; Wm. B. Ittner, Inc., Archt., Continental Bldg.

Mo., St. Louis—J. L. Zeigenheim & Sons, Inc., 3455 Lafayette St., erect \$31,900, one- and two-story, 61x40 ft., brick funeral home, 7027 Gravois Ave.; comp. shingle and tile roof; H. Beetz & Son, Bldr., 2668 Nebraska St.; Hy Schaumburg, Archt., 3631 Connecticut St.

Railway Stations, Sheds, Etc.

Tex., Sweetwater—Texas & Pacific Ry. Co., E. Mitchell, Ch. Engr., Dallas, let contract at

\$35,000 to F. A. Mote, Construction Industries Bldg., Dallas, for improvements to passenger station. 4-16

Schools

Ala., Loachapoka—Lee County Bd. of Public Instruction, Opelika, let contract at \$19,700 to Snellings Lumber Co., Phenix City, for rebuilding Loachapoka Consolidated school previously burned.

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg., let contract at \$91,980 to Arthur L. Smith Co., 2539 Pennsylvania Ave., for Western High School athletic field; A. L. Harris, Municipal Archt. 4-16

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., Dist. Bldg., let contract at \$19,825 to Martin Brothers, 743 14th St., N. W., for automobile repair shop at Columbia Jr. High School; brick and stone, conc. and cement work, struc. metal, built-up roof, steel windows, glazing; A. L. Harris, Municipal Archt., Dist. Bldg. 4-16

Fla., Dowling Park—Suwanee County Bd. of Public Instruction, Live Oak, let contract to Hinley Construction Co., Live Oak, for one-story, 125x55 ft., brick, cast stone trim school; asbestos roof, wood floors; Alvin R. Moore, Archt., Ames Bldg., Tallahassee. 3-19

Fla., Miami—Dade County Bd. of Public Instruction, James J. Marshall, Chmn., let contract at \$30,095 to Fred Howland, 1600 N. W. 14th St., for 2-story, rein. conc., conc. block and stucco, 6-classroom school in Morningstar; wood and tile floors, tile roof; Klehnel & Elliott Archt., Seybold Bldg. 4-2

Ky., Adairville—Logan County Bd. of Education, J. W. Stewart, Pres., Russellville, let contract to Claude Peast, Adairville, for 2-story and basement, 110x135 ft., brick, stone and rein. conc. school; John T. Waller, Archt., Hopkinsville. 3-26

Ky., Fullerton—Greenup County Bd. of Education, Robt. J. Nickel, Supt., Greenup, let contract at \$52,492 to Ashland Construction Co., Ashland, for brick, stone trim, fireproof, 12-classroom, gymnasium and auditorium school near Fullerton; Devoss & Donaldson, Archts.

La., Monroe—Following additional sub-contracts awarded on \$300,000 Jr. High School for which Ashton Glassell Co., 220 Cadillac St., Shreveport, has general contract: Roofing and sheet metal work, Dixie Roofing Co., Inc., 414 Walnut St.; millwork, Parlor City Lumber Co., 1000 Mississippi St.; glass and glazing, Sagle-Johnson Lumber Co., Mo. Pac. R. R. & Apple St., all Monroe; pans, Southern G-F Co., 263 Decatur St., S. E., Atlanta, Ga.; incinerator, hollow metal windows and Kalamein doors, Welsh Building Specialties, Inc., Ricou-Brewster Bldg.; Johns Manville Sanacoustic tile, Taylor-Seidenbach Co., Inc., both 96 Travis St.; screens and weatherstrips, A. B. Cowan, Jr., City Bank Bldg., all Shreveport; waterproofing, A. C. Horn Co., 2120 Polls St., Houston, Tex.; painting, Frank J. Matthews Co., New Orleans; J. W. Smith & Associates, Archts., Ouachita Natl. Bank Bldg., Monroe. 3-12

Md., College Park—University of Maryland, Samuel M. Shoemaker, Chmn., Bd. of Regents, Fidelity Bldg., Baltimore, erect 2-story, 136x172 ft., brick, conc. and steel basketball field house; slag roof, steam heat, tile floors, seat 5000 people; J. J. McDewitt, Charlotte, N. C., and Box 123, Rockville, Md.; Howard W. Cutler, Archt., 1800 E St., N. W., Washington, D. C.

Mo., Columbia—Memorial Union Comm., R. L. Hill, Sec., soon start work on brick and rein. conc. building on University Campus; Simon Construction Co., Contr.; Jamieson & Spearl, Archts., Arcade Bldg., St. Louis.

N. C., Wise—Warren County Bd. of Education, Edw. J. Allen, Warrenton, let contract at \$17,292 to Strickland Bros., Zebulon, for one-story, brick veneer school.

Tex., Gainesville—Bd. of Education let contract at \$35,777 to Lee R. Doughty, 320 E. 9th St., Dallas, for 2-story, 56x132 ft., frame school; tile roof, wood and conc. floors, cast stone, incinerator, metal doors, rolling partitions, steel sash and trim, tile; Wyatt C. Hedrick, Inc., Archt., First Natl. Bank Bldg., Fort Worth. 4-9

Tex., Lubbock—Texas Technological College, W. T. Gaston, Bus. Mgr., let contract, on revised plans, to W. G. McMillan for \$20,000, brick, tile and rein. conc. power house; Wyatt C. Hedrick, Inc., Archt., First Natl. Bank Bldg., Fort Worth. 2-26

Tex., New Braunfels—Mirabeau Lamar School Trustees, J. R. Fuchs, Pres., let contract at \$9614 to Albert Meckel for two-wing additions to one-story Comal Town school building; Jeremiah Schmidt, Archt., New Braunfels; W. E. Simpson Co., Const. Engrs., Milam Bldg.; Lloyd D. Royer, Const. Mech. Engr., Smith-Young Tower, both San Antonio.

Va., Charlottesville—Richmond Structural Steel Co., Inc., 17th and Dock Sts., Richmond, has contract for 135 tons fab. struc. steel for 3-story, rein. conc. struct. steel, brick and tile Clark Memorial Law Bldg. at University of Virginia for which Johnson Construction Co., Law Bldg., Norfolk, has general contract at \$271,567; plans by Architectural Comsn., John K. Peebles, Chmn., Law Bldg., Norfolk. 3-26

Va., Rice—Prince Edward County School Bd., Farmville, let contract to Farmville Manufacturing Co., Farmville, for \$30,000, brick and conc. high school.

Stores

D. C., Washington—Morris Miller, 1700 Euclid St., N. W., has permit for \$14,000, 2-story brick store and dwelling, 4128 Eighth St., N. W.; owner builds.

D. C., Washington—A. G. Spicer, 402 O St., N. W., erect 2-story, 18x50 ft., brick store, 11th and W Sts., N. W.; hot water heat, tin roof; R. C. Archer, Archt., 1759 You St.; owner builds, ready for sub-bids in about two weeks. 2-26

Fla., Jacksonville—Cunningham's Furniture Store, 525 W. Forsyth St., let contract to O. P. Woodcock Co., Duval Bldg., for additions and alterations to 4-story building; \$25,000.

Fla., Jacksonville—Sollace Mitchell, 3721 Ortega Blvd., erect one-story addition and remodel brick building, 224 W. Adams St.; \$10,000; Arthur F. Perry, Jr., Contr., Bisbee Bldg.

Fla., Miami—Red Cross Pharmacy, Byron B. Freeland, Pres., 51 S. Flagler St., let contract to St. John Construction Co., 629 N. W. 7th St., for \$40,000 remodeling and addition to store; add approx. 2000 sq. ft. floor space; plan to start work in May.

Fla., Miami—Flagler Radio Co., 1102 W. Flagler St., having plans prepared by E. A. Ehmann, 175 E. Flagler St., for one-story, 50x88 ft., rein. conc., conc. block and stucco store, W. Flagler St. and 11th Ave., S. E.; comp. roof, cement floor, plate glass front; owner builds, day labor.

Ga., Atlanta—Massell Realty Co., Crumley Bldg., erect \$20,000, one-story and basement, 150x80 ft., brick, struc. steel, 7-story building, Spring and W. Peachtree Place, N. W.; stone trim, tar and gravel roof, steam heat, sprinkler system; owner builds, day labor; E. C. Seiz, Archt., Crumley Bldg.

Ga., Savannah—C. N. Comatie let contract to D. C. Beasley, 307 W. Duffy St., for one-story, 100x35 ft., tile and stucco store; Arthur F. Comer, Archt., Realty Bldg. 4-2

La., New Orleans—D. G. Villere, 1444 N. Tontl St., has contract for excavation, and Abry Bros., 3332 St. Ann St., contract for shoring for \$2,500,000, 5-story and basement, 100x200 ft., rein. conc., steel, brick and tile, limestone and granite department store, Baronne and Common Sts., for Jas. K. Feibleman Realty Co., to be occupied by Feibleman-Sears, Roebuck Co.; B-W Construction Co., Gen. Contr., 720 Cass St., Chicago; Moise H. Goldstein, Archt., American Bank Bldg., New Orleans. 3-26

Md., Baltimore—David L. Dubick, 3038 Baker St., erect one-story brick store; J. E. Merley, Archt., 3128 Westwood Ave.; ready for bids.

Md., Parkville—Peter Redel erect one-story, stone and conc. 2-story building; owner, Archt.-Bldr.

Mo., St. Louis—D. Messler, care Geo. F. Hayden, Archt., 2836 Chippewa St., erect 2-story and basement, 60x27 ft., brick store and apartment, 2816 Cherokee St.; Baerveldt & Honig, Contrs., Wainwright Bldg.

Tex., Beaumont—W. W. Kyle, Kyle Bldg., owner of Kyle Theater, let contract to McDaniel Brothers, Kyle Bldg., for one- and two-story, brick, stone trim, semi-fireproof shop and office building, Orleans St. between Liberty St. and Broadway; Babin & Neff, Archts., Perlstein Bldg. 4-9

Va., Newport News—M. Williams, 3614 Washington Ave., let contract to F. F. Pland, 117 Twenty-ninth St., for \$38,000 store and apartment; H. W. & J. A. Simpson, Archts., Bd. of Trade Bldg., Norfolk. 4-9

Warehouses

D. C., Washington—Thos. Somerville Co., 312 Thirteenth St., N. W., let contract to Skinker & Garrett, 1719 Eye St., N. W., for 3-story, 60x250 ft., rein. conc., hollow tile and brick warehouse and office, First and N. Sts., N. E.; slag roof, steam heat; electric elevator and lift; J. J. Moebis, Archt., Dupont Circle and Connecticut Ave. 3-12

D. C., Washington—Following sub-contracts awarded on 4-story, 250x150 ft. warehouse for Palais Royal, 11th and G St., N. W., for which George A. Fuller Co., Munsey Bldg., has general contract: Excavation, Potts &

Callahan, Knickerbocker Bldg., Baltimore; steel sash, Campbell Metal Window Corp., Inc., One Pershing Sq.; cement, Atlas Portland Cement Co., 25 Broadway; Kalman floors, Kalman Floor Co., Inc., 110 E. 42nd St.; elevators, Otis Elevator Co., 11th Ave. and 26th St.; rolling doors, J. G. Wilson Corp., 9 E. 38th St., all New York; glass, Pittsburgh Plate Glass Co., Grant Bldg., Pittsburgh, Pa.; sheet metal, Wolfsteiner Co., 1315 W. St., N. W.; roofing, Warren-Ehret Co., 2625 K St., N. W.; conc. work, Geo. A. Fuller Co.; plumbing and heating, Standard Engineering Co., 2129 Eye St., N. W.; electric, Central Armature Works, Inc., 625 D St., N. W., all Washington; painting, sprinklers, millwork, brick work not let; Abbott Merkt Co., Archt., 175 Fifth Ave., New York; F. B. Pyle, Supvg. Engr., Evans Bldg., Washington. 4-2

Mo., St. Louis—Laessig Oil Products, Inc., Boatman's Bank Bldg., soon start work on one-story, 15x150 ft., brick office and warehouse, Fyler Ave., near Kingshighway Blvd.; J. S. Alberici, Contr., Boatman's Bank Bldg.; Geo. R. Bartling, Inc., Archt., Paul Brown Bldg.

Trade Literature

Elevating Grader.—Bulletin No. 1213, devoted to Austin Contractor's Special elevating grader, has been issued by the Austin-Western Road Machinery Co., Chicago, Ill., sales agents in the United States for this machine, which is made by the Austin Manufacturing Co., Chicago. The grader weighs 16,000 pounds, has a 48-inch engine driven carrier, 32-inch plow, roller bearings in wheels and carrier rolls, steel carrier head drum, hollow steel belt supporting rollers and steel carrier sideboards. It is powered by a six-cylinder, heavy duty engine.

Century of the Reaper.—A volume, "The Century of the Reaper," written by Cyrus McCormick, grandson of Cyrus Hall McCormick, inventor of the reaper, is primarily a biography of the latter. It details the history of the McCormick Harvesting Machine Co., the business he founded and of the International Harvester Company, "his heir and chief memorial." The book contains 307 pages, including index, and is liberally illustrated. The Houghton Mifflin Company, Boston and New York, are the publishers.

Floating Motor Drive.—The Kritzer Company, Chicago, is distributing folders devoted to the Floating Motor Drive, which utilizes the motor torque to regulate and maintain belt tension. Described as a superior motor mounting that "removes the last objection to the use of short center drives, either flat-belt or vee-belt," this drive is said to be adaptable to all types of motor driven equipment, including compressors, ice machines, pumps, blowers, production machinery, textile machinery, line shafting, individually-driven metal working machinery and for other applications.

Roller Chain Usage.—The Diamond Chain & Manufacturing Co., Indianapolis, Ind., has published a booklet illustrative of roller chain usage, "Simplifying and Improving Machine Design." It describes in detail eight points or classes of transmission where Diamond drives are particularly applicable.

Core Drills.—Sprague & Henwood, Inc., Scranton, Pa., have issued a new catalog illustrating and describing in detail a complete line of core drills manufactured by the company, together with necessary supplies and equipment.

(Continued on page 58)

WANT SECTION

THE CLASSIFICATIONS IN THIS SECTION ARE:

Machinery and Supplies
Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

Building Materials and Equipment
This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

Bids Asked
Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

Machinery and Supplies

Air Compressor.—Manhattan Laundry, Manhattan, Kans.—Wants prices and data on belt driven air compressor, 25 to 30-ft. capacity.

Cocoanut Grinding and Packing Equipment.—James R. Kelly, Little River Sta., P. O. Box 720, Miami, Fla.—Wants prices and data on equipment for opening cocoanuts, saving milk and meat, shredding or grinding and drying and canning, using cans, glass or packages.

Sand Plant Equipment.—A. R. Merrill, 402 First National Bank Bldg., Tampa, Fla.—Wants prices and data on equipment for sand plant.

Water Works Material.—Town of Oxford, Md., Walter F. Moore, Engr., wants prices on following:

- (1) Fire Hydrants—six
- (2) Pipe
- (3) Valves and Caulking Material.

W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on following:

- (1) Chamfering Machine (Angle)
- (2) Lathe (Engine)—hollow spindle, quick change, 14 to 16 in., 8 or 10-ft. bed.

Miscellaneous

Dies and Stamping.—Chas. M. Ray, 50 Holland St., Asheville, N. C.—Wants prices and data from firms in position to make dies and do stamping.

Peter Chakiris, Chakiris-Vave & Co., 507-9 Pennsylvania Ave., Baltimore, Md., has opened business for contracting and installation of store fixtures, restaurant equipment, etc., and wants prices on following:

- (1) Lunchroom, Restaurant and Confectionery Store Fixtures and Equipment
- (2) Stoves
- (3) Steam Tables
- (4) Kitchen Utensils
- (5) Stools and Chairs
- (6) Silverware
- (7) Miscellaneous Hardware.

Shippers Equipment Co., H. E. Wendell, 335 18th Ave., S., St. Petersburg, Fla., wants following:

- (1) Veneer (Yellow Pine)—rotary cut, 3-16 in.
- (2) Steel—cold rolled strip
- (3) Wire—galvanized.

Gate Valves, Fittings, etc.—Alex M. Robinson (Mchy. Dealer), Smithfield, Ky.—Wants prices and data on gate valves in 4 and 10 in. sizes, for B & S cast pipe, also fittings for same size pipe, tees, elbows and crosses; requests list as to quantity of valves and different fittings offered and prices f. o. b. car point of shipment.

Building Material and Equipment

E. G. Maxwell, Contr., 301 Peachbloom Drive, Chattanooga, Tenn., wants prices and data on various types building material and equipment.

Wilson Co., 306 National Bank Bldg., Charlottesville, Va., estimating on U. S. post office, Milford, Conn., and wants quotations and sub-bids on or before May 2.

A. D. Rawlinson, Supt. of Schools, Silsbee, Tex., wants prices on following for \$60,000 high school:

Laboratory Equipment—physics
Seats, Desks—260 chairs or desks, 10 teachers' desks, 600 auditorium seats.

M. H. Sobel Co., 1031 First Natl. Bk. Bldg., Detroit, Mich., wants prices on following for 10 officers' quarters, Langley Field, Va.
Flooring—hardwood
Limestone.

P. A. Wiley, 135 W. 14th St., Oklahoma City, Okla., wants prices on following:
Air Cooling Systems—for use in residences, offices, etc.

R. H. Blackman, Sec., Chowan County Bd. of Education, Citizens Bank Bldg., wants prices on following for \$20,000 school:

Blackboards—slate
Flooring—hardwood
Rolling Partitions.
Roofing—asbestos shingle.

Ray C. Arnold, Archt., 910 Staley Bldg., Wichita Falls, Tex., wants prices on following for \$60,000 Sunday school.
Cast Stone.

Bids Asked

Automobiles.—Comms. of Indian Affairs, Washington, D. C.—Bids Apr. 27 for 4 1½-ton capacity trucks, and 21 ½-ton trucks.

Automobile Plates.—State Bd. of Control, Austin, Tex.—Bids Apr. 30 for 1,450,000 pairs automobile number plates, 250,000 pairs commercial motor vehicle plates, 40,000 single trailer plates, 15,000 single dealer plates, 6000 pairs motor bus plates, 10,000 pairs exempt plates, 8000 single motorcycle plates, 3000 single motorcycle s'decar plates and 30,000 chauffeur badges.

Bituminous Flushing.—City, Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids Apr. 29 for bituminous flushing roads and streets; Nathan L. Smith, Highways Engr.

Boilers.—Quartermaster Depot, U. S. Army, Washington, D. C.—Bids Apr. 28 for 32 heating boilers, Langley Field, Va.

Bridge Lighting.—Maryland. See Construction News—Bridges, Culverts and Viaducts.

Bridges.—State of Georgia—Bids for 16 bridges. See Construction News—Roads, Streets and Paving.

Bridge.—Kentucky. See Construction News—Roads, Streets and Paving.

Bridge.—Richmond, Va. See Construction News—Roads, Streets and Paving.

Brick.—Bd. of Awards, Baltimore, Md.—Bids April 29 for 400,000 arch brick.

Brake Testing Machines.—District Comms., Washington, D. C.—Bids May 7 for two brake testing machines.

Building Material.—Arkansas Construction Comsn., Marion Hotel, Little Rock, Ark.—Bids Apr. 27 for following materials for use in constructing second unit, farm colony, State Hospital for Nervous Diseases, Saline County, Ark.: Portland cement, brick and hollow building tile; Mann, Wanger & King, Archts., Donaghey Bldg., Little Rock.

Castings, Forgings, Structural Steel, etc.—U. S. Engr. Office, Huntington, W. Va.—Bids April 27 for castings, forgings, structural steel, etc., wicket boxes, breech straps, plate washers, top plates, cut washers and bolts for Dams 8 and 9, Kanawha River, and spares for Locks 4 to 11, Kanawha River.

Colonade.—Office of Architect of the Capitol, Washington, D. C.—Bids May 14 for constructing free-standing colonade along C St. front of present Senate Office Bldg., approx. 330 ft. long and projecting approx. 6 ft. from line of present building, including slabs, common brick backing for exterior excavations, rein. conc. footings and walls, exterior granite and marble work, copper roofing and flashing, ornamental bronze work, repairs to marble floors, changes in plumbing, heating and electrical work, models and carving, carpentry and millwork, plastering, painting and glazing.

Diving Telephone.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Apr. 27 for radio supplies, delivery Quantico, Va.

Drainage.—Office of Executive Officer, Arlington Memorial Bridge Comsn., Navy Bldg., Washington, D. C.—Bids Apr. 29 for constructing bridge plaza drainage on plaza

just west of Lincoln Memorial. See Construction News—Roads, Streets and Paving.

Dishwashing Machine.—Commanding Officer, Washington Quartermaster Depot, 20th and C Sts., N. W., Washington, D. C.—Bids May 4 for dishwashing machine.

Drinking Fountains.—District Comms., Washington, D. C.—Bids May 7 for drinking fountains.

Fire Extinguishers.—Commanding Officer, San Antonio Arsenal, Tex.—Bids May 7 for fire extinguishers.

Floating Deck.—Office of Chief of Bureau of Yards and Docks, Navy Dept., Washington, D. C.—Bids Apr. 29 for floating deck on gasoline tank at navy yard, Charleston, S. C.

Furniture.—District Comms., Washington, D. C.—Bids May 5 for pupils' chairs, desks and tables for use in public schools.

Gasoline.—Commanding Officer, Augusta Arsenal, Ga.—Bids Apr. 27 for 14,040 gal. motor gasoline.

Gas System (Natural).—City of Amarillo, Tex., W. N. Durham, City Mgr.—Bids April 28 for furnishing complete distribution system for natural gas supply for entire city; plans and specifications on file at office of City Engr.; bids received on all or part of material or work; system to be of latest approved type of welded or coupled pipe complete with 10,000 meters.

Generator Unit.—Commr. of Institutions, Nashville, Tenn.—Bids Apr. 27 for furnishing and installing motor generator unit, Western State Hospital, Bolivar, Tenn.; motor to operate on 115 volts, d. c.; generator to develop 75 kw. at 2300 volts, 3 phase, 60 cycles.

Heating System, Remodeling.—Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids Apr. 29 for remodeling heating system in public bathhouse No. 2, 900 Washington Blvd., for Dept. of Public Works, Bureau of Buildings; W. G. Hammond, Buildings Engr.

Hulls (Steel).—U. S. Engr. Office, Customhouse, St. Louis, Mo.—Bids May 6 for 2 steel hulls for quarterboats.

Laboratory Equipment.—District Comms., Washington, D. C.—Bids May 7 for laboratory equipment.

Mirrors.—Office, Chief of Engineers, Munitions Bldg., Washington, D. C.—Bids Apr. 28 for 10 metallic searchlight mirrors, 60 in., model E-1.

Miscellaneous.—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Apr. 27 for following, Sch. 2649:

Bench grinder, mirrors, sounding wire, ship scrapers, hacksaw frames, bolt clippers, screw clamps, boiler punches, dies, stocks and dies, steel clips, padlocks, etc.

Miscellaneous.—Gen. Pur. Officer, Panama Canal, Washington, D. C.—Bids May 8 for following, Sch. 2651:

Steel pipe, insulated cable, metal beds, wicker furniture, canvas cots, time-card recording clocks, pressure gauges, reamers, end mills, drills, taps, files, chisels, track bolts, etc.

Paint, etc.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Apr. 28 for paint, etc., delivery Quantico, Va.

Paper Articles, etc.—Quartermaster Supply Officer, Fort Sam Houston, San Antonio, Tex.—Bids May 1 for paper bags, wrapping paper, memorandum pads, manila tags and cotton and flax twine.

Photo Prints.—Dept. of Commerce, U. S. Patent Office, T. E. Robertson, Commr.,

Business NEEDS Modern Accountancy

To estimate correctly where it stands today; to vision clearly the demands of tomorrow, and prepare for them—Business needs *now*, more than ever, definite and dependable Facts and Figures. On them, Management will determine its best and most economical use of working capital, will place responsibility for production and sales costs and inventories, and prevent wastes.

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SAN FRANCISCO
SEATTLE
TAMPA
TOLEDO
TULSA
WASHINGTON
WHEELING
WINSTON-SALEM
YOUNGSTOWN

Washington, D. C.—Bids May 4 for producing, in city of Washington, during fiscal year ending June 30, 1932, copies of drawings of pending applications and patents, trade-mark applications, and of foreign patents, papers and exhibits by photographs or other process.

Pipe (Cast Iron).—Town of Ormond, Fla., W. F. Morris, Chmn. Bd. of Zone Mgrs.—Bids May 19 for furnishing labor and material for construction and laying cast iron pipe in town; work comprises about 3000 ft. of 10-in. diam. c. i. pipe, on land and under water; plans and specifications on file office of Clk.; A. G. Boynton, Engr. in charge.

Pianos.—District Commrs., Washington, D. C.—Bids Apr. 29 for 42 pianos for use in public schools.

Planographing, Half-tone Color Work.—Dept. of Commerce, U. S. Patent Office, T. E. Robertson, Commr., Washington, D. C.—Bids May 4 for producing, during fiscal year ending June 30, 1932, by planographing, half-tone, color work, or other process, copies of drawings of weekly issues of patents, to be assembled with specification, stitched, banded and numbered, etc.; and for reproduction of exhausted copies of drawings and specifications, etc., by planographing, to be assembled, stitched, banded and numbered.

Plumbing Supplies.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Apr. 27 for plumbing supplies, delivery Quantico, Va.

Railroad Ties, etc.—Commanding Officer, Curtis Bay Ordnance Depot, Baltimore, Md.—Bids Apr. 30 for 2000 creosoted crossties, 420 switch ties and 12 telephone poles.

Razor Blades.—Quartermaster Supply Officer, Fort Sam Houston, San Antonio, Tex.—Bids Apr. 30 for 5100 safety razor blades.

Roads.—State of Georgia—Bids for 13 roads. See Construction News—Roads, Streets and Paving.

Roads.—State of Arkansas—Bids for 6 roads. See Construction News—Roads, Streets and Paving.

Roads.—State of Kentucky—Bids for 11 roads. See Construction News—Roads, Streets and Paving.

Road.—Huntington, W. Va. See Construction News—Roads, Streets and Paving.

Road, etc.—Baltimore, Md. See Construction News—Roads, Streets and Paving.

Road.—Augusta, Ga. See Construction News—Roads, Streets and Paving.

Shovels.—Engineer, Office of Corps Area Engr., Headquarters Third Corps Area, 311 St. Paul Pl., Baltimore, Md.—Bids Apr. 29 for shovels.

Scale.—Contracting Officer, Q. M. Corps, Fort Monroe, Va.—Bids Apr. 27 for full automatic springless scale.

Steel Cutter.—U. S. Engr. Office, Jacksonville, Fla.—Bids Apr. 27 for manganese steel cutter for Congarre.

Street.—Baton Rouge, La. See Construction News—Roads, Streets and Paving.

Structural Steel, etc.—Pennsylvania R. R., C. E. Walsh, Pur. Agt., 15 N. 32nd St., Philadelphia, Pa.—Bids Apr. 28 for Cont. 13-1931, cinders and slag ballast, and 14-1931, struc. steel.

Tile Floors, Wainscoting, etc.—S. L. Christian, Custodian, U. S. Marine Hospital, Norfolk, Va.—Bids Apr. 27 for removing cement topping from floors and plaster from walls in rooms and spaces in main hospital, east wing, attendants' quarters and laundry, and installing tiled floors and wainscoting in 54 rooms, 5697 sq. ft. floor space.

Welding Unit.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Apr. 27 for portable welding unit, delivery Quantico, Va.

Winch.—U. S. Engr. Office, P. O. Box 1017, Memphis, Tenn.—Bids Apr. 27 for 6-drum, gasoline engine driven hauling winch.

Wire Rope and Clips.—Engineer, Office of Corps Area Engineer, Headquarters Third Corps Area, 311 St. Paul Pl., Baltimore, Md.—Bids Apr. 27 for wire rope and clips.

Wharves.—City, R. Keith Compton, Dir. Public Works, City Hall, Richmond, Va.—Bids May 4 for wharves, consisting of 220 lin. ft. gravity type conc. wall with alternate of rein. conc. platform type on conc. piles; also 300 lin. ft. creosoted timber wharf.

(Continued from page 55)

TRADE LITERATURE

Portable Belt Conveyors.—Bulletin No. 40-1, issued by the Fairfield Engineering Company, Marion, Ohio, presents detailed information on Fairfield portable belt conveyors and their application. These conveyors are made in sizes from 20 to 60 feet; are furnished with belt widths of 20 and 24 inches, and may be equipped with electric or gasoline power units.

Concrete Construction.—The Universal Atlas Cement Co., Chicago, subsidiary of the United States Steel Corporation, has issued a new Handbook of Concrete Construction, giving useful information on plain and reinforced concrete. The book is a pocket manual, 208 pages, written from a practical rather than a technical viewpoint, and applies primarily to smaller structures.

Budgeting in Manufacturing.—"Budgetary Control in Manufacturing Industry," a volume issued by the National Industrial Conference Board, Inc., New York, was prepared by R. H. Sands and assistants of the Conference Board's Research Staff under supervision of the Staff Economic Council. In addition to chapters on various phases of budgeting as applied to manufacturing, the publication contains lists of tables, forms and exhibits.

Harris County Report.—The annual statistical and financial report of H. L. Washburn, auditor of Harris County, Houston, Tex., has been issued in the form of an attractive book, embracing 272 pages, and covering in detail the county's roads, navigation, drainage and school districts. In addition to statistical and descriptive data, the report presents a number of excellent illustrations.

INDUSTRIAL NEWS

Demand for Industrial Equipment

The Petroleum Heat & Power Company, Stamford, Conn., reports an increase of 102 per cent in sales of oil burners for domestic and industrial use for the first quarter of 1931. Increased interest in industrial fields, especially in the East where sales doubled during the first quarter, is regarded by W. C. McTarnahan, president of the company, as an indication of returning stability in production.

New Eastern District Office

The Owen Bucket Company, Cleveland, Ohio, announce the opening of a new Eastern district office at room 718, 51 East 42nd street, New York. It will be separate and distinct from the company's present sales and service office at 36-25 Twenty Second street, Long Island City, N. Y., which will continue to handle sales and service for New York City proper.

Form Construction Firm

Ford, Bacon & Davis, Inc., engineers, New York City, announce the organization of the Ford, Bacon & Davis Construction Corporation, as a wholly owned subsidiary, to handle all contract construction activities of the entire organization. The new company will have its executive offices at 39 Broadway, New York, and field offices at Dallas, Tex. Its officers are Edgar G. Hill, president; James F. Towers and William von Phul, Jr., vice-presidents, and Henry F. Storck, secretary and treasurer. Mr. von Phul, Jr., will manage the Dallas office and will direct field activities in oil and gas pipe line projects. Having built the third section of a 960-mile Texas Panhandle-Chicago natural gas pipe line, Ford, Bacon & Davis, Inc., now have under construction the last link of this line, a section 155 miles long; an oil pipe line from East Texas to Shreveport, La., for a Cities Service subsidiary, and the Western Gas Company development.

Consolidates Operating Structure

The Appalachian Gas Corporation, New York, has acquired from Union Utilities, Inc., all outstanding common stock of Union Management and Engineering Corporation, operating managers of subsidiaries and affiliates in the Appalachian Gas Corporation group. This move consolidates the operating structure of the purchasing company and is expected to reduce management costs. Union Management and Engineering Corporation was organized in 1928 to manage both natural and manufactured gas properties, and under its supervision the 210-mile pipe line of the Memphis Natural Gas Company was built from the Monroe field in Louisiana. Natural gas companies under supervision of the Union Management and Engineering Corporation include the Memphis Natural Gas Co., Ohio Valley Gas Co., Ohio Southern Gas Co., Ohio Kentucky Gas Co., Wayne United Gas Co., Allegheny Gas Corp., Texas Gas Utilities Co., Commonwealth Gas Corp. and the West Virginia Gas Corporation, constituting the Appalachian Gas Corporation group.

Freight Traffic Manager

The Seaboard Air Line Railway, C. R. Capps, Norfolk, chief traffic officer, has appointed C. E. Muller as freight traffic manager, in charge of solicitation and service, succeeding B. C. Prince, deceased. Mr. Muller, now industrial secretary of the Jacksonville Chamber of Commerce, will have his headquarters at Norfolk.

Jones & Laughlin New Orleans Manager

The Jones & Laughlin Steel Corporation, Pittsburgh, Pa., has appointed Louis H. Krieger as manager at New Orleans of its warehouse and fabricating shop, recently purchased from the Lukens Steel Company. Mr. Krieger has been assistant manager of the Jones & Laughlin warehouse in Chicago since 1926.

(Continued on page 60)



ANNOUNCEMENT

*Jones & Laughlin Steel Corporation
Pittsburgh*

*announces the purchase of the warehouse,
fabricating shop and business of
Lukens Steel Company
on the Industrial Canal
New Orleans, Louisiana*

*The Lukens Warehouse and Fabricating Shop will be
operated under the direction of Louis H. Krieger formerly
Assistant Manager of the Jones & Laughlin Chicago
Warehouse, to give the same efficient service to consumers of
steel products as that rendered by the Lukens Steel Company
April 1st 1931*

JONES & LAUGHLIN STEEL CORPORATION

AMERICAN IRON AND STEEL WORKS

JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA

Sales Offices: Atlanta Boston Buffalo Chicago Cincinnati Cleveland Dallas Denver Detroit Erie Los Angeles Memphis
Milwaukee Minneapolis New York Philadelphia Pittsburgh St. Louis San Francisco Washington

Warehouses: CHICAGO CINCINNATI DETROIT MEMPHIS NEW ORLEANS PITTSBURGH

Canadian Representatives: JONES & LAUGHLIN STEEL PRODUCTS COMPANY, Pittsburgh, Pa., U. S. A., and Toronto, Ont., Canada

**J&L
STEEL**

(Continued from page 58)

County to Sell Used Equipment

The Board of County Commissioners of Broward County, Fort Lauderdale, Fla., Frank A. Bryan, clerk, and H. C. Davis, county engineer, will receive bids until May 5 for any part or all of the following equipment; Austin No. 4 gyratory crusher, with accessories; power controlled 12-foot Ryan grader; four Baker-Maney $\frac{3}{4}$ -cubic yard wheeled scrapers; Ruth dredger, and a Dayton-Dowd centrifugal fire pump, direct connected to a 50-horsepower Westinghouse induction motor. The machinery may be examined by prospective purchasers and information may be obtained from the engineer.

New Trackson Distributor

The Trackson Co., Milwaukee, Wis., announces appointment of W. W. Williams Co., 835 W. Goodale street, Columbus, Ohio, as distributor for Trackson tractor equipment, including a complete Trackson line of crawlers, shovels, hoists, cranes, bulldozers, etc., as well as repair and replacement parts for these machines.

Moves New York Office

The Newport News Shipbuilding and Dry Dock Company, Newport News, Va., reported in these columns last week as to move its New York office May 1, announces that the New York office will be moved from 233 Broadway to 90 Broad street, effective April 25.

Relocates New York Office

The Pittsburgh-Des Moines Steel Company, Pittsburgh, Pa., announces removal of its New York office from 50 Church street to 270 Broadway. Products of the company include tanks, towers, structural steel, municipal waterworks and incinerators.

Stucco Products Distributors

The Stucco Products Company of Florida, Inc., Jacksonville, for a number of years engaged in the manufacture of cold water paints and prepared stucco, have recently appointed distributors throughout the Northeast. These include the Slade-McLemore Corporation, 11-15 East Saratoga street, Baltimore; the Markle-Renner Corporation, Denckla Building, Philadelphia; the Spencer-Baltzell Corporation, 1 East 42nd street, New York, and the Charles H. Jeffries Company, 560 Pleasant street, Boston.

Takes Over Loadmaster Crane

The Bucyrus-Erie Company, South Milwaukee, Wis., has taken over the manufacture and sale of the Loadmaster revolving boom crane formerly sold by Frederic H. Poor, Inc., New York. This mobile crane has a boom swing of 360 degrees and a rated capacity of 3500 pounds, although heavier loads may be handled under special conditions. It has a working reach of 14-16 feet and may be mounted on crawlers or rubber tired wheels, in the latter case having a maximum traveling speed of about 11 miles an hour.

Propose to Advertise Florida

A movement to advertise Florida has been started by the Florida State Chamber of Commerce, Jacksonville, of which G. G. Ware, Leesburg, is president. As outlined to a number of the state's prominent business and professional men at a conference recently held in Miami, the program tentatively involves creation of a \$500,000 fund annually with which to finance advertising messages to the rest of the nation. Half of the amount, as proposed, is to be appropriated by the state legislature; the other half is to be raised each year.

Those attending the meeting were organized into the Florida National Publicity Council. Mayor John T. Alsop, Jr., of Jacksonville, was appointed chairman of the resolutions committee, other members of which are: Frank B. Shutts, Miami publisher; J. A. Mackintosh, Tallahassee; F. J. Lee, Clearwater, and Lorenzo Wilson, Davenport and Jacksonville. A ways and means committee, with H. I. Mossbarger, Miami, as chairman, and David Sholtz, of Daytona Beach, former president of the state commerce organization, and O. F. Gardner, Lake Placid, as members, was also appointed. Harold Colee, St. Augustine is chairman of the Publicity Committee of the Florida State Chamber of Commerce.

Progress on Inland Waterway

Wilmington, N. C.—Construction is progressing on the inland waterway from Beaufort to Cape Fear River, according to Major R. A. Wheeler, U. S. District Engineer at Wilmington. From Beaufort to a point about 8.5 miles west of New River, a distance of 50.5 miles, the work has been completed to project dimensions, except for a length of about a mile a little east of New River, where rock was encountered, the depth over this mile varying from 7 to 12 feet. A section between the channel in Cape Fear River and a point three miles east of the causeway at Wrightsville, a distance of 19 miles, has also been completed to project dimensions. This leaves a section 24 miles long on which no work has been done. Work is now in progress on the uncompleted portion under contracts with the Arundel Corporation, Baltimore. At present only the 20-inch pipe line dredge Lehigh is at work, but a second dredge will be added in May. Contracts call for the completion of the waterway in March, 1932. Under a contract with the Roanoke Iron & Bridge Works, Inc., Roanoke, Va., a steel highway bridge is being built over land cut between Cape Fear River and Myrtle Sound, which is expected to be completed in July of the current year.

Mining Congress to Meet in Cincinnati

The manufacturers division of the American Mining Congress will hold its eighth annual convention at Cincinnati, May 11-15, including an exposition of coal mining machinery, equipment and supplies. The convention program includes an address by Dr. John R. Turner, Morgantown, president of the University of West Virginia, on "Research on Coal for Utilization." The subject of a paper by Thomas G. Fear, Fairmont, W. Va., general manager of operations of the Consolidation Coal Co. is "Maintaining Discipline." Other West Virginia coal men on the program or serving as members of the program committee include: P. M. Snyder, Mt. Hope, president of the C. C. B. Smokeless Coal Co.; B. H. McCrackin of Fairmont, maintenance engineer of the Consolidation Coal Co.; P. C. Graney, Mt. Hope, general manager of the C. C. B. Smokeless Coal Co., H. B. Husband, Dorothy, general manager of coal mining of the C. & O. Railroad Co.; Thomas H. Claggett, Bluefield, chief engineer, Pocahontas Coal and Coke Co.; H. S. Gay, Jr., Mt. Gay, general superintendent, Gay Coal and Coke Co.; J. W. Bischoff, Omar, general superintendent, West Virginia Coal and Coke Co., and H. D. Smith of the Sovereign Pocahontas Coal Co., Bluefield.

Cotton Dresses for Graduation Exercises

Use of cotton dresses by the graduating classes of public schools, in the opinion of Willis A. Sutton, president of the National Education Association and superintendent of schools at Atlanta, Ga., will tend to show the public how attractive such costumes may be, with resultant improvement in the economic conditions of the Southern farmer and manufacturer. Mr. Sutton has directed that Atlanta school principals foster the wearing of cotton, particularly at the commencement exercises. He suggests that educators throughout the South might follow this example. "If the people are educated to the attractiveness and style possibilities of cotton goods, our present economic plight may end," he points out.

As president of the National Education Association, Mr. Sutton is urging school boards and superintendents to be of economic service by maintaining present salary scales for educational service. In a letter sent to every board of education in the United States, he reports that more than 100 cities have decided to retain their present salary schedule.

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Mine Inspectors' Institute

A tentative program has been arranged for the meeting of the Mine Inspectors' Institute of America at Richmond, Va., May 4, 5 and 6. Short addresses of welcome will be made by Governor Pollard, Mayor J. Fulmer Bright, William H. Schwarzschild, president of the Richmond Chamber of Commerce; Lee Long, Virginia Coal Operators' Association, and John Hopkins Hall, Jr., Virginia commissioner of labor. The response will be made by L. W. Brown, Charleston, W. Va., president of the Association. Other features include the following:

Address, "Direct and Indirect Cost of Mine Accidents," by Ruch N. Hosler, superintendent, Pennsylvania Compensation, Rating and Inspection Bureau, Harrisburg; discussion led by R. E. Simpson, of Hartford, Conn.; address, "The Value of Local Mining Institutes," J. F. Bryson, director of safety, Harlan County Coal Operators' Association, Harlan, Ky.; address, "Value of Organized Safety to the Mining Industry," Charles W. Conner, general manager, American Rolling Mills Company, Nellis, W. Va.; discussion led by W. H. Glasgow, secretary, Department of Mines, Harrisburg; address, "Method of Sealing and Reopening Barracksville, W. Va., Mine Fire," J. V. Berry, safety director, Bethlehem Mines Corporation, Johnstown, Pa.; discussion, led by A. B. Spencer, state mine inspector, Morgantown, W. Va.; address, "Prevention of Accidents From Roof Falls," J. W. PaPul, senior engineer, U. S. Bureau of Mines, Pittsburgh; discussion, led by John G. Millhouse, director, Department of Mines and Minerals, Springfield, Ill.; address, "The Value of Systematic Air Analysis in Relation to Mine Ventilation," C. A. McDowell, Pittsburgh; discussion led by Joseph J. Walsh, state mine inspector, Wilkes-Barre, Pa.

States represented in the Institute are: Alabama, Arkansas, Colorado, Illinois, Iowa, Kansas, Kentucky, Maryland, Missouri, New Mexico, Ohio, Oklahoma, Pennsylvania, Tennessee, Virginia, West Virginia, Wyoming and Wisconsin. The following have applied for membership during the coming convention:

C. B. Noel, secretary-treasurer of the Virginia Coal Operators' Association, Norton, Va.; John Hopkins Hall, Jr., A. G. Lucas, Virginia chief mine inspector; David E. Stanton, state mine inspector, St. Paul, Va.; F. W. Howarth, Pennsylvania state mine inspector, Brownsville, Pa.; C. O. Morris, director of safety and mine rescue stations, West Virginia Department of Mines, Charleston, W. Va.; H. M. Griffith, safety inspector, Jewell Ridge, Va.; Robert Lilly, state mine inspector, Mount Hope, W. Va.

In addition to Mr. Brown, other offi-

cers of the Institute include: Ed. Flynn, first vice-president, chief mine inspector, Tennessee Coal, Iron and Railroad Co., Pratt City, Ala.; E. W. Smith, second vice-president, Chief of the Division of Mines, Columbus, Ohio; P. J. Friel, third vice-president, mine inspector, Shamokin, Pa.; J. J. Rutledge, treasurer, chief mine engineer, Maryland Bureau of Mines, Baltimore; C. A. McDowell, secretary, Pittsburgh, and W. B. Millhouse, assistant secretary, chief of mine inspection, Birmingham, Ala.

Mississippi Banks Reopening

Jackson, Miss.—Three large Mississippi Banks—the Merchants & Farmers Bank of Levington, the Merchants & Farmers Bank of Starkville and the People's Bank of Calhoun City—which closed several months ago, have resumed operations. With the opening of these institutions, a total of 33 Mississippi banks have reopened since the wave of suspensions began last year.

\$800,000 Conservatory Building

Washington, D. C.—Bids will be opened May 21 in the office of David Lynn, Architect of the Capitol, for the construction of a new \$800,000 conservatory for the United States Botanic Garden. The structure will be 284 by 183 feet, one story, of reinforced concrete, steel, stone, aluminum and glass. Plans will be available after April 13 at the office of Mr. Lynn. Bennett, Parsons & Frost, Chicago, are the consulting architects.

More Eggs

A 70 per cent increase in egg production by a flock of chickens treated two hours daily with ultra-violet rays is reported, following a test sponsored by the Missouri Public Service Company, Warrensburg, and the General Electric Supply Corporation of Kansas City, Mo.

The test was made on the Case and Elling farm at Concordia, Mo. A flock of pullets was divided into two groups and housed in a two-section Jamesway hen house, insulated but unheated. Each group received the same food and ventilation, but one group was treated with ultra-violet radiation by means of two General Electric sunlamps. After a month's test, the untreated group had gained 13 per cent over normal production, and the treated flock gained 92 per cent. Allowing for the extremely mild weather conditions which caused an increase of 13 per cent in the untreated flock the treated group showed a 70 per cent increase as a result of ultra-violet treatment.

Chemical Development

The chemical industries of this country annually turn out products valued at \$3,000,000,000 or more, a total that was reached for the first time in 1927, and that represents an increase of 185 per cent since 1914, when the corresponding figure was only a little over \$1,000,000,000.

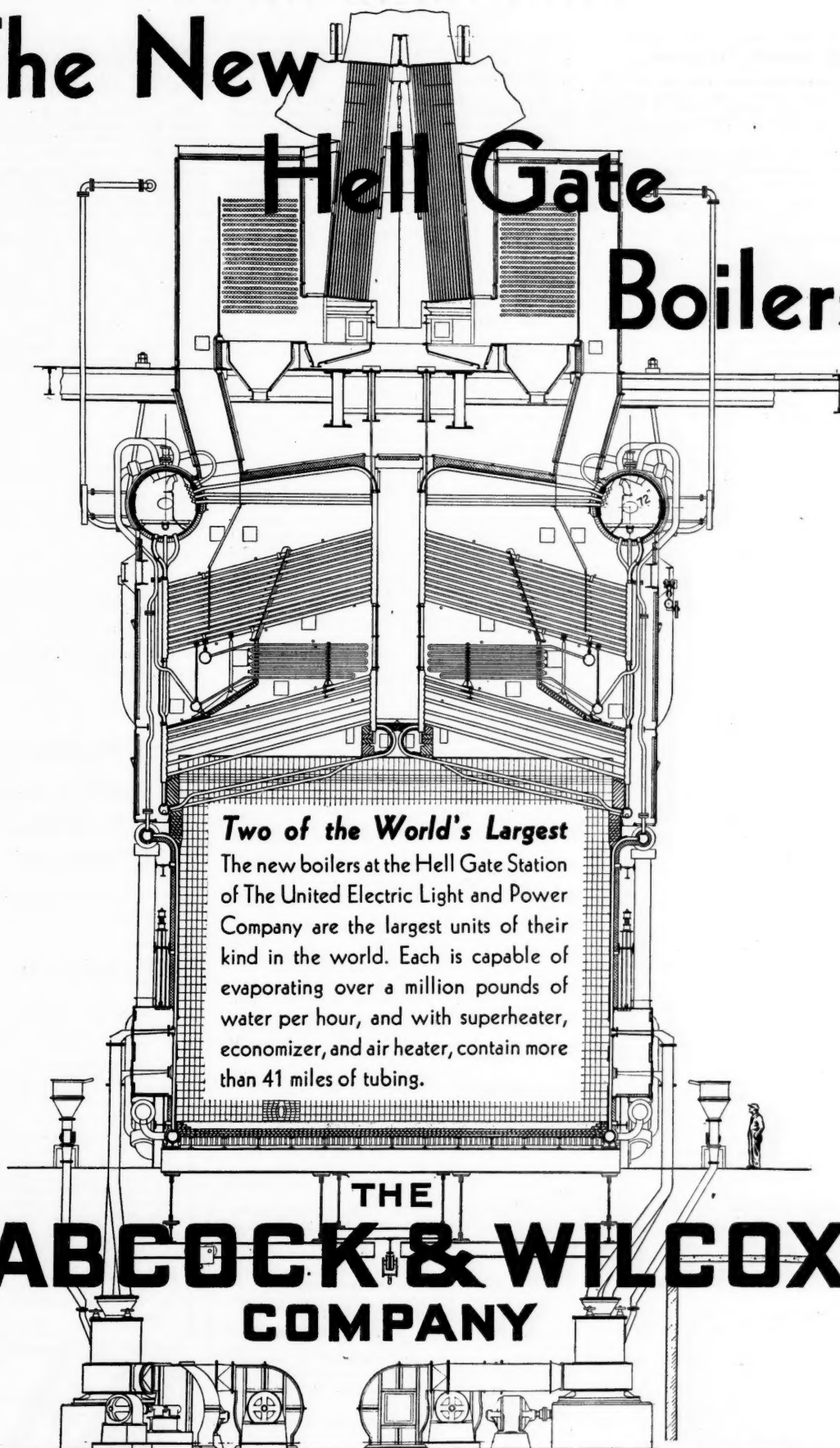
At the Thirteenth Exposition of Chemical Industries to be held at the Grand Central Palace in New York during the week of May 4, raw materials, equipment and finished products will be exhibited. Engineers, chemists and high officials of the industries of all the industrial nations are expected to come to study and compare raw materials and equipment that may be used in their plants, or to see the latest products of research and invention. Also, buyers from other industries to study the finished products of the chemical industries—industrial chemicals, building materials, refractories, highly specialized metal alloys, electrical equipment, etc., and to attend lectures on industrial chemicals, materials and processes. The subject of plastics will be discussed in a series of lectures on Wednesday afternoon May 6 and repeated on Thursday afternoon, May 7, under the chairmanship of R. C. Gilmore, Jr. Speakers and their subjects will be: Leon V. Quigley, Bakelite Corporation, "Technical Advantages of the Phenolic Resinoids"; Benn C. Budd, American Insulator Corporation, "Molding Methods and Markets"; Louis F. Rahm, Burroughs Engineering Co., "Machinery and Equipment"; Robert Simmonds, Celluloid Corporation, "Cellulose Acetate Plastics," and Carl Marx, Plastics Publications, Inc., "History and Possibilities"; B. S. Covell, Arthur D. Little, Inc., "Chemicals in Plastics"; A. J. Norton of General Plastics, Inc., "Synthetic Resin Finishes"; Arthur J. Briggs, General Electric Company, "Laminated Plastics and Their Uses"; John E. Walker, Pyroxylin Plastics Manufacturers Association, "Pyroxylin Plastics in Industry"; and Charles E. Slaughter, Unyte Corporation, "Development in Urea Plastics."

A large proportion of the industries to be represented are not chemical in any sense, but are closely bound up with the chemical industries because of essential equipment they produce.

Rayon and Silk Firm

Burlington, N. C.—Walter M. Williams, J. R. Copeland, J. M. Fowler and Lynn B. Williamson, all of Burlington, have incorporated E. M. H. Rayon and Silk Weavers, Inc., to manufacture and deal in silk, cotton, rayon or other fibrous products. The new firm has an authorized capital stock of \$250,000.

The New Hell Gate Boilers



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FINANCIAL NEWS

Bond Issues Proposed

Ala., Athens—Limestone County, A. M. McConnell, Probate Judge, opens bids Apr. 30 for \$130,000, \$1000 denom. funding bonds; will not consider bids for less than par and accrued interest.

Ark., McGehee—City plans election on \$15,000 bonds for purchase of pumper for Fire Dept. and fire station.

Fla., Gainesville—Archer Special Tax School Dist. of Alachua County, E. R. Simmons, Sec., Bd. of Public Instruction, opens bids May 5 for \$10,000 bonds.

Ga., Sale City—Sale City Consolidated School Bd. votes on \$25,000 school building bonds.

Ky., Owensboro—Spencer County Bridge Comsn., A. H. Kennedy, Brown Trust Co., Rockport, Ind., opens bids May 11 for 5% bonds for Owensboro, Ky-Rockport, Ind., bridge over Ohio River.

La., Amite—Tangipahoa Parish School Bd., C. C. Pittman, Supt. of Education, opens bids May 12 for \$25,000 school building bonds.

La., Baton Rouge—State Bd. of Liquidation of State Debt sell \$2,000,000 Confederate pension and \$502,000 drouth relief bonds Apr. 27. 4-16

La., Marksville—Avoyelles Parish School Bd. ordered elections for May 19 on bond issues to improve present school buildings or build new ones in following locations: Bordelouville Dist. No. 9, \$30,000; Evergreen Dist. No. 13, \$40,000; Dupont Dist. No. 14, \$15,000; Districts 4 and 7 merged (Simmesport and Odenburg), \$35,000.

La., Tallulah—D. H. Allen, Mayor, authorized at meeting of Mayor and Bd. of Aldermen to take up matter of issuing \$50,000 bond issue with city attorney and take necessary steps to call election to float bonds for fire truck, city hall and 2 bridges over Bayou.

Maryland—State Legislature authorized following bonds: County—Allegany, roads, \$800,000, hospital, \$600,000; Calvert, roads, \$300,000; Cecil, roads, \$1,000,000; Charles, school, \$23,000; Dorchester, road, \$1,000,000; Dorchester, courthouse and school, \$175,000; Frederick, roads, \$170,000, refunding, \$186,000, schools, \$124,000, refunding, \$100,000; Garrett, schools, \$150,000; Montgomery, current indebtedness, \$70,000, police station, \$30,000, schools, roads and bridges, \$2,144,000, refunding, \$200,000, school, \$78,000, roads, \$170,000; Prince George's, schools, \$275,000; Queen Anne's, schools, \$40,000; Talbot, schools, \$45,000; Washington, schools, \$55,000; Worcester, schools, \$110,000; Worcester, current expenses, \$140,000, construction, \$25,000; City—Brunswick, water, \$100,000; Baltimore, sewerage, \$5,000,000, paving and bridges, \$5,000,000, conduit, \$1,500,000, schools, \$10,000,000, water, \$7,500,000, juvenile and People's Court, \$500,000; Cumberland, water, \$900,000, city jail, \$50,000, sewers, \$10,000, incinerator, \$60,000, streets, \$100,000; Centreville, electric light plant, \$70,000; Clearspring, water and sewer, \$25,000; Crisfield, bridge, \$30,000; Colmer Manor, street improvement, \$80,000; Chestertown, street improvement, \$25,000; Cambridge, sewers, \$350,000, general improvement, \$50,000; Easton, refunding, \$45,000; Frederick, water, \$225,000; Federalburg, current indebtedness, \$72,000; Frostburg, water, \$200,000; Grantsburg, water, \$25,000; Kitzmiller'sville, water, \$25,000; Laurel, street improvement, \$10,000; Middleton, water, \$10,000; Ocean City, general improvement, \$20,000; Rockville, water and sewer, \$50,000; Salisbury, street improvement, \$50,000, water and sewer, \$75,000; Snow Hill, water and sewer, \$25,000; St. Michaels, electric plant, \$16,000; State of Maryland bridge loan, \$2,000,000; general construction loan, \$5,663,000; Ocean City, inlet, \$500,000.

Md., Annapolis—State of Maryland, John M. Dennis, State Treas., opens bids June 10 for \$1,000,000, 4½% bridge bonds.

Md., Annapolis—State Legislature authorized \$3,163,000, not to exceed 4½% state loans during 1931 session: Bridge loan of 1931, \$2,000,000, of which \$1,000,000 is to be issued June 15, 1931, and \$1,000,000 June 15, 1932; general construction loan of 1931, \$5,663,000, of which \$500,000 will be issued Aug. 15, 1931, \$1,997,000 Feb. 15, 1932, and \$3,076,000 Aug. 15, 1932; Ocean City inlet loan, \$500,000, of which \$125,000 will be issued Feb. 15, 1932, and \$375,000 Aug. 15, 1932, contingent upon contributions of one-third of cost of project by Federal government.

Md., Baltimore—City, Wm. F. Broening, Mayor, votes May 5 on \$7,500,000 water system bonds. 4-16

Miss., Fayette—Jefferson County Supvrs. called election for May 2 on \$20,000 Special Consolidated School Dist. bonds.

Mo., Hollister—Hollister Consolidated School voted \$21,000 school building bonds.

N. C., Raleigh—Legislature authorized State, O. Max Gardner, Governor, to issue \$400,000 prison bonds.

N. C., Raleigh—City, Local Government Comsn., Chas. M. Johnson, Director, withdrew sale of \$450,000 bonds. 4-16

Okla., Oklahoma City—State, Ray O. Weems, Treas., advises regarding report state may vote on \$6,000,000 funding bonds, rumor is unfounded and no issue is contemplated. 4-16

Tenn., Cookeville—Putnam County votes May 2 on \$80,000 school bonds.

Tenn., Gallatin—Sumner County Court voted to issue \$165,000 school bonds.

Tenn., Huntington—Carroll County Court authorized \$75,000 courthouse construction bonds.

Tenn., Knoxville—Knox County Court opens bids May 11 for \$1,000,000, \$1000 denom., 4½% bonds; \$500,000, county's share of Henley St. bridge; \$500,000, schools. 4-16

Tenn., Lebanon—City, C. O. Dodson, Commr. of Finance and Revenue, rejected bids on \$200,000, 5%, \$1000 denom. waterworks bonds. 4-9

Tenn., Memphis—Shelby County Court authorized \$60,000, \$1000 denom., 5% bonds to retire similar amount of bonds maturing on Bolton College property; to be advertised immediately.

Tex., Beaumont—City plans issuing \$250,000 waterworks bonds.

Tex., Belton—Bell County Road Dist. No. 9-A voted \$625,000 bonds for concrete highways. 3-26

Tex., Boerne—Kendall County Commrs. Court called election for May 9 on \$175,000 highway paving bonds.

Tex., Brownsville—Commrs. Court created Cameron County Water Control and Improvement Dist. No. 19 and will probably call election in near future on \$1,000,000 irrigation system bonds.

Tex., Brownsville—City voted \$916,500 refunding and water and light bonds, \$150,000 for new construction. 4-9

Tex., Corsicana—Navarro County Commrs. Court passed order authorizing Clay Nash, County Judge, to advertise bids for sale of \$120,000 Purdon Road Dist. bonds.

Tex., Cross Plains—City voted \$20,000 gas plant bonds.

Tex., Cuero—City sold \$30,000 street improvement bonds to Dallas Union Trust Co., Dallas, at \$30,000 plus accrued interest and \$111 premium.

Tex., Donna—Donna Independent School Dist. opens bids May 14 for \$195,000 bonds.

Tex., Daingerfield—Morris County, W. Z. Beasley, County Judge, opens bids Apr. 28 for \$70,000, 5½%, Road Dist. No. 3 bonds.

Tex., Houston—Harris County, reported, probably sell \$1,500,000 road bonds in September, recently voted.

Tex., Jasper—Jasper County, J. J. Miller, County Supt., soon hold bond election.

Tex., Lipscomb—Lipscomb County voted \$350,000 road bonds.

Tex., New Braunfels—City, A. D. Nuhn, City Clk., postponed date of bids on \$35,000, \$1000 denom. bridge bonds. 3-26

Tex., Palestine—City plans calling elections on \$30,000 bonds: \$20,000, airport; \$10,000, junior high school campus.

Tex., Savoy—City votes Apr. 29 on \$15,000 school building bonds.

Tex., Silsbee—City, P. W. Bailey, Sec. School Bd., voted \$80,000, 5% high school building bonds; secured interest to be paid by purchaser. 4-9

Tex., Van—Van Independent School Dist. voted \$90,000 school bonds.

Tex., Vega—City, voted \$25,000 waterworks bonds.

Bond Issues Sold

Ark., Little Rock—Pulaski County sold \$325,000, 4½% refunding bonds to M. W. Elkins & Co., Little Rock.

Md., Salisbury—City, E. J. Parsons, City Clk., sold \$75,000, 4½%, \$1000 denom. water and sewer extension bonds to John P. Baer & Co., Baltimore, at 106.249. 4-19

Mo., Clayton, St. Louis—McKenzie School Dist. 47, reported, sold \$39,000, 5% school bonds to Baum, Bernheimer Co., 1016 Baltimore St., Kansas City.

Mo., St. Joseph—City, Bartlett Boder, City Comptroller, sold \$136,000, 4½%, \$100 denom. coupon refunding bonds to First Union Trust & Savings Bank, Chicago, Ill., at 105.33. 4-2

Mo., St. Louis—City, Louis Nolte, City Comptroller, sold \$8,200,000, 4% bonds for streets, lighting, etc., to group headed by Guaranty Co., New York, at 102.53. 3-19

Mo., Trenton—City, reported, sold \$40,000 park improvement and swimming pool bonds to City Bank & Trust Co., Kansas City.

N. C., Charlotte—City, C. M. Cresswell, City Treas., sold \$2,200,000, \$1000 denom. bonds to group composed of Bancamerica-Blair Corp., First National Old Colony Corp., George B. Gibbons & Co., Inc., and Dewey, Bacon & Co., all New York; Wallace Sanderson & Co., and American Trust Co., Charlotte, to yield 3.75 to 4.15%, according to maturities.

N. C., High Point—North Carolina Bank & Trust Co., recently purchased \$100,000 temporary loan bonds.

N. C., Roxboro—Local Government Comsn., Chas. M. Johnson, Sec., sold \$87,500, \$1000 denom. bonds, as 5½% to Ryan, Sutherland & Co., Toledo, at 100.18. 4-9

N. C., Wilkesboro—Local Government Comsn., W. E. Easterling, Asst. Director, Raleigh, sold \$127,000 570, \$1000 denom. Wilkes County school funding bonds to Bank of North Wilkesboro, at par and accrued interest. 4-9

Okla., Garber—City sold \$27,000 coupon natural gas system bonds to Taylor-White Co., Oklahoma City, as 6s, at par. 4-2

S. C., Brookland—Lexington County School

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FINANCIAL NEWS

Dist. No. 29 sold \$100,000, 6% bonds to Taylor, Wilson & Co., Inc., Cincinnati, Ohio.

Tenn., Memphis—City, D. C. Miller, Clk., sold \$1,990,000 bonds: \$1,740,000 obligation bonds for water, sewer, street and fire department to Chemical Securities Corp., New York; \$250,000 school bonds to Continental Illinois Co., Chicago, Ill.

Tenn., Morristown—Joseph, Hutton & Estes, Nashville, purchased \$40,000 Hamblen County bonds, as 5s, at 100.38.

Tenn., Newport—Cooke County, W. C. Cureton, Clk., sold \$110,000, 5½%, \$1000 denom. courthouse bonds to I. B. Tigrett & Co., Jackson, Tenn., at \$1200 premium and accrued interest. 3-26

Tenn., Rutledge—Grainer County sold \$90,000 school bonds to Joseph, Hutton & Estes, Nashville, at 101.00.

Tex., Cleburne—H. C. Burt & Co., Houston, recently purchased \$66,000 funding warrants.

Tex., Galveston—City sold \$150,000, 5%, \$1000 denom. grade raising, draining and sewer bonds to Title Guarantee Securities Corp., 645 Walnut St., and Taylor, Wilson & Co., Inc., Dixie Terminal Bldg., both Cincinnati, Ohio.

Tex., Uvalde—Uvalde County, Green B. Fenley, Jr., Judge, sold \$175,000, 5½%, \$1000 denom. Road Dist. 1 bonds, Series 2 to Alamo National Co., San Antonio, at \$177.401.75 and accrued interest. 3-19

Va., Suffolk—City Council authorized \$15,000 serial refunding bonds; sold to Farmers Bank of Nansemond, at par, carrying 4½%.

New Financial Corporations

Ark., Bentonville — American National Bank, capital \$40,000, being formed with J. S. Tetley, Pres., W. J. Haxton, C. T. Boren and others.

Citizens' Bank & Trust Co., Charlottesville, Va., increasing maximum authorized capital stock, \$200,000 to \$500,000.

Continental Trust & Savings Bank, J.

Homer Jordan, Pres., and Commercial Bank & Trust Co., Val H. Murrell, Pres., both Shreveport, La., plan merger.

Corsicana National Bank, A. G. Elliott, Pres., and First National Bank, J. N. Edens, Pres., both Corsicana, Tex., merged; J. H. Eden to head new institution.

First National Bank, J. C. Lybrand, Pres., and Van Zandt County National Bank, H. T. Fry, Pres., both Wills Point, Tex., merged under charter of First National Bank of Wills Point.

Stockholders of Finance Co. of America, Baltimore, Md., meet May 6 to act on proposal of Bd. of Directors to merge with National Discount Corp., Philadelphia; consolidation to take place in name of Finance Co. of America.

Financial Notes

Earnings Show Increase

The Electric Bond and Share Company, New York, according to its annual report for 1930, earned \$2.43 a share on the total shares of common stock outstanding December 31, 1930, as compared with \$1.97 a share earned for 1929 on common shares outstanding at the close of that year. Earnings on the average number of common shares outstanding during 1930 were equivalent to \$2.49 a share, as compared with \$2.22 a share earned during 1929 on common shares outstanding during that year. Gross income of the company for 1930 was \$54,387,962, as compared with \$42,410,701 for 1929, while the net income was \$42,355,163 in 1930 as against \$32,511,823 in 1929. Total dividends in 1930 amounted to \$15,785,193, as compared with \$11,858,819 in 1929.

Florida East Coast Railway Report

Railway operating revenues of the Florida East Coast Railway Company for the fiscal year ended December 31, 1930, amounted to \$11,729,810, as compared with \$13,446,014 for the fiscal year of 1929. Railway operating expenses for 1930 amounted to \$8,614,204 as against \$9,437,666 for 1929, while the railway operating income for 1930 was \$1,778,349 as against \$2,401,336 for 1929. Gross income for 1930 amounted to \$1,190,718 as compared with \$1,730,502 for 1929. To save expenses through reduction of taxes and insurance, the road adopted a program of retiring obsolete equipment and in 1930 retired 60 locomotives, 25 passenger train cars, 1003 freight cars and 243 units of work train equipment.

Chesapeake and Ohio Report

Operating revenues of the Chesapeake & Ohio Railway Company for 1930 amounted to \$137,173,037, a decrease of \$13,494,937, as compared with 1929, or 8.96 per cent. Revenue coal and coke tonnage declined 8.2 per cent and other freight tonnage 10.5 per cent. The number of passengers carried was 2,608,573 for the year, a decrease of 28.9 per cent as compared with 1929. Net income for 1930 amounted to \$33,999,455, equivalent to \$4.44 a share on the common stock, as compared with \$36,349,341, or \$4.75 a share on common stock in 1929. Current assets of \$36,693,188 in 1930 compared with \$30,419,587 in 1929, while current liabilities of \$19,356,318 in 1930 represented a decline of more than \$4,000,000 as compared with 1929.

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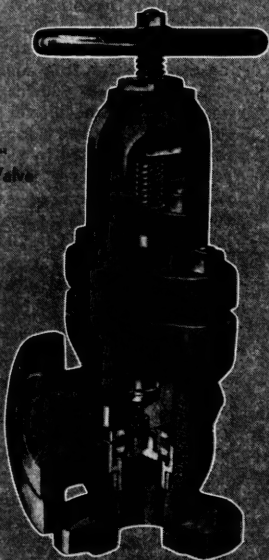
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Now there flows through Layne wells, operated by Layne pumps, one million gallons per day of clear, cool water for irrigation and general use at this beautiful club!

Layne again proves one of their basic claims—that frequently there is an abundance of ground water available—if Layne advanced methods are used!


Write the address below for the name of the Local Layne Engineer in your vicinity, and discuss your water developing problems with him.

LAYNE & BOWLER, INC.
MEMPHIS, TENNESSEE

Water Wells
and Pumps

LAYNE

Water Supply
Systems



JOINTITE

WATERTIGHT SEWER PIPE JOINT COMPOUND
Also Miller Flush Tank Siphons, Automatic
Sewage Ejectors, Convertible Diaphragm-
Plunger Pumps, Sewage Disposal Apparatus.

PACIFIC FLUSH-TANK CO.
Write nearest office for catalog interested in.

4241 Ravenswood Ave. CHICAGO
136 Liberty Street NEW YORK

SAND PUMPS

A wide range of types in sizes 4" to 15"
For belt drive and for direct connection to motor
Illustrated booklet on request

GEORGIA IRON WORKS
AUGUSTA, GA.

SALT GLAZED SEWER AND CULVERT PIPE

Wall Coping, Drain Tile, Flue Lining, Chimney Tops, Hollow
Tile, Fire Proofing, Vitrified Brick, Fire Brick

BANNON'S PATENT LIDDED PIPE FOR STEAM CONDUITS

BANNON PIPE CO. LOUISVILLE, KY.

MANISTEE CENTRIFUGAL PUMPS

Condensers—Chemical Evaporators—Gate Valves—Hydrants

MANISTEE IRON WORKS CO.
156 Turner Ave., MANISTEE, MICHIGAN

THE QUALITY UNION

The Dart is the Quality Union, and
quality is always cheapest.

The Dart is made of Malleable Iron,
with extra heavy pipe ends and with
double seated ball joint formed of
bronze rings.

IN DART UNION THERE IS DOUBLE STRENGTH



E. M. DART MFG. CO.
PROVIDENCE, R. I.

The Fairbanks Company, Sales Agent
Dart Union Co., Ltd., Toronto, Canada.

EVERY THURSDAY

is publication day of the
MANUFACTURERS RECORD.

Changes of copy must reach us eight
days in advance, or fifteen days in
advance if proofs are requested.

MANUFACTURERS RECORD
Baltimore, Maryland



PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close May 14, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., April 15, 1931.—**SEALED BIDS**, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., May 14, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Lake City, Fla. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$25.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close May 21, 1931.

OFFICE OF THE ARCHITECT OF THE CAPITOL, Washington, D. C., April 7, 1931. **SEALED BIDS** will be opened in this office at 3 P. M., Eastern Standard Time, May 21, 1931, for the construction of a Conservatory Building for the United States Botanic Garden, to be built on Square 576, Washington, D. C. The building as designed will be approximately 183 feet by 254 feet, one story high, of stone, concrete, steel, aluminum and glass construction, with reinforced concrete pile foundations. In accordance with the Act of March 3, 1931, the specifications require that all laborers and mechanics employed under the contract for this building shall be paid the prevailing rates of wages in the District of Columbia. On or after April 13, 1931, plans and specifications, not exceeding three sets, may be obtained at the Office of the Architect of the Capitol, in the discretion of said Architect, by any satisfactory general contractor. A deposit in the form of a check for \$50.00, made payable to the order of David Lynn, Architect of the Capitol, will be required for each set of plans and specifications to insure their return in good condition.

Bids close May 14, 1931.

OFFICE OF THE ARCHITECT OF THE CAPITOL, Washington, D. C., April 17, 1931. **SEALED BIDS** will be opened in this office at 3 P. M., Eastern Standard Time, May 14, 1931, for Alterations to the C Street Facade, Senate Office Building, Washington, D. C. The work consists of the construction of a free-standing colonnade along the C Street front of the present Senate Office Building, approximately 330 feet long, and projecting approximately 6 feet from the line of the present building; including excavations, reinforced concrete footings and slabs, common brick backing for exterior walls, exterior granite and marble work, copper roofing and flashing, ornamental bronze work, repairs to marble floors, changes in plumbing, heating and electrical work; models and carving; carpentry and millwork; plastering, painting and glazing. In accordance with the Act of March 3, 1931, the specifications require that all laborers and mechanics employed under the contract for this building shall be paid the prevailing rates of wages in the District of Columbia. On or after April 23, 1931, plans and specifications, not exceeding three sets, may be obtained at the Office of the Architect of the Capitol, in the discretion of said Architect, by any satisfactory general contractor. A deposit in the form of a check for \$50.00, made payable to the order of David Lynn, Architect of the Capitol, will be required for each set of plans and specifications to insure their return in good condition. DAVID LYNN, Architect of the Capitol.

GENERAL INFORMATION About Proposal Advertising in Manufacturers Record

PUBLICATION DAY: Thursday.
FORMS CLOSE: 10 A. M. Tuesday.

When too late to send copy by regular mail to reach us by 10 A. M. Tuesday, forward by night letter or air mail when possible.

THE DAILY CONSTRUCTION BULLETIN OF THE MANUFACTURERS RECORD

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

The rate is the same for both publications—35 cents a line each insertion.

Bids close May 5, 1931.

U. S. Engineer Office, 300 Custom House, Baltimore, Md. Sealed proposals will be received here until 3 P. M., Eastern Standard Time, May 5, 1931, and then publicly opened, for dredging approximately 99,050 cubic yards of material, place measurement, in Broad Creek River, Del., 65,187 cubic yards in Corsica River, Md., and 16,663 cubic yards in Kent Island Narrows, Md.

Bids close April 30, 1931.

DEPARTMENT OF THE INTERIOR, Washington, March 23, 1931. Sealed proposals in duplicate will be received at the Department of Interior until 2 o'clock p. m., Thursday, April 30, 1931, for furnishing all labor and materials for constructing at St. Elizabeths Hospital, Washington, D. C., one Tuberculosis Building, No. 1, including roads, walks, grading and drainage. This work will include excavating, reinforced concrete construction, hollow tile, brick work, cut stone work, masonry, floor and wall tile, compressed asphalt tile, terrazzo floors, linoleum floors, ironwork, steel sash, steel stairs, tile and metal roofing, roof ventilators, metal lathing, plastering, carpentry, metal weatherstrips, insect screens, window shades, painting, glazing, hardware, plumbing, heating and ventilating, electrical work, electric elevator, and outside service connections. Separate bids will be received for electric elevator, as per bid form. Bids will be considered only from individuals, firms, or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract and in making award, the records of bidders for expedition and satisfactory performance on contracts of similar character and magnitude will be carefully considered. Drawings and specifications may be obtained upon application to the Construction Division, U. S. Veterans' Bureau, Room 764 Arlington Building, Washington, D. C. A certified check for \$50 payable to the Treasurer of the United States, will be required as a guaranty for the safe return of the plans loaned. Special attention is invited to requirements of the Act of March 3, 1931, regarding rate of wages, set forth in the specifications. Time of performance will be considered an element in awarding the contract. The right is reserved to reject any or all bids, waive technical defects, accept one part and reject the other as the interests of the Government may require. Proposals must be securely enveloped, marked "Proposal for construction of Tuberculosis Building, St. Elizabeths Hospital," and be addressed to the Secretary of Interior, Washington, D. C. JOS. M. DIXON, First Assistant Secretary.

Bids close May 5, 1931.

TREASURY DEPARTMENT, Bureau of Engraving and Printing, Washington, D. C., March 26, 1931.—Sealed proposals are invited for the sale of ink scrapings, and postage stamp and internal revenue paper trimmings, and for the cleaning of windows during the fiscal year beginning July 1, 1931. Proposals to be received not later than 2 p. m., Tuesday, May 5, 1931. Blank forms with specifications for proposals for the several schedules and further information will be furnished on application to A. W. HALL, Director.

Bids close May 4, 1931.

Reinforced Concrete Bridge

Richmond, Va.

SEALED PROPOSALS WILL BE RECEIVED AT THE OFFICE OF THE DIRECTOR OF PUBLIC WORKS, RICHMOND, VA., UNTIL 3 O'CLOCK P. M., MAY 4, 1931, for the construction of a slab type reinforced concrete bridge on concrete piles, 66 ft. length and 24 ft. roadway, with cantilever sidewalks.

Form of Proposal, Plans and Specifications can be obtained on application.

A charge of \$5.00 will be made for these plans, etc., which sum will not be refunded.

A CERTIFIED CHECK for the amount stated (\$500.00) on proposals must accompany each bid as a guaranty of execution of contract. The Director of Public Works reserves the right to reject any and all bids.

R. KEITH COMPTON,
Director Public Works.
City Hall.

Bids close April 28, 1931.

Bridges

Baton Rouge, La.

Sealed Proposals for the construction of the following projects will be received by the Louisiana Highway Commission, Room No. 614, Louisiana National Bank Building, Baton Rouge, Louisiana, until 9.45 A. M. on Tuesday, April 28, 1931. Proposals will not be received after this hour. At 10 o'clock A. M. of the same day and date they will be publicly opened and read in the Chamber of the Senate in the State Capitol Building.

(BOND) PROJECT NO. 6500—OUACHITA RIVER BRIDGE AT STERLINGTON ON THE FARMVILLE-BASTROP HIGHWAY—Located in Union and Ouachita Parishes, Route No. 11. Description: 1—200 ft. fixed span, 3—100 ft. low truss spans, 1—320 ft. swing span on concrete piers resting on untreated timber piles, 3—30 ft. reinforced concrete deck girder spans on concrete piles. Roadway width, 20 ft. Approximately 1.0 mile of earth approaches, including gravel surfacing. Charges for plans, \$3.50.

(BOND) PROJECT NO. 6600—MERMEN-TAU RIVER BRIDGE AT LAKE ARTHUR ON THE LAKE ARTHUR-ABBEVILLE HIGHWAY—Located in Jefferson Davis and Vermilion Parishes, Route No. 25. Description: 1—250 ft. fixed span, 2—200 ft. fixed spans on concrete piers resting on untreated timber piles, 20—20 ft. combination I-beam trestle spans on timber piles. Roadway width, 20 ft. Approximately 0.5 mile of earth approaches, including gravel surfacing. Charges for plans, \$3.50.

Full information and proposal forms are available at the offices of the Highway Commission at Baton Rouge. Plans and specifications may be inspected there or will be furnished upon payment of the amounts specified above (not to be refunded).

HARRY B. HENDERLITE,
State Highway Engineer.
O. K. ALLEN, Chairman,
Louisiana Highway Commission.

Bids close April 28, 1931.

Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.
SEALED PROPOSALS for building five sections of State Highway as follows:
Baltimore City, Contract No. BC-101-72—One section of State Highway along the Philadelphia Road from Monument Street to Herring Run Bridge, a distance of 0.68 miles and along the North Point Road from the Philadelphia Road to the B. & O. R. R. Bridge, a distance of 0.16 miles and along Erdman Avenue from the Belair Road to the Philadelphia Road, a distance of 1.9 miles, total 2.74 miles (Grading).
Baltimore County, Contract No. B-183-44—One section of State Highway from Sheppard to Troyer, a distance of 1.0 mile (Concrete).
Charles County, Contract No. Ch-102-82—One section of State Highway along the Pisgah-Ironsides Road from the end of Contract No. Ch-79 toward Ironsides, a distance of 1.0 mile and from Pisgah toward LaPlata, a distance of 1.0 mile, total 2.0 miles (Gravel).
Howard County, Contract No. Ho-93-52—One section of State Highway from the National Pike toward Morgan Station, a distance of 1.0 mile (Penetration Macadam).
Harford County, Contract No. H-119-42—One section of State Highway from Shawsville to the Baltimore County Line, a distance of 1.2 miles (Concrete).
will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M. on the 28th day of April, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.
No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.
The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland respecting contracts.
The Commission reserves the right to reject any and all bids.
BY ORDER of the State Roads Commission this 14th day of April, 1931.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close May 19, 1931.

Bids close April 28, 1931.

Electrical Work

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.
SEALED PROPOSALS for electrical work on bridge as follows:
Dorchester County, Contract No. D-71-17—All electrical work necessary for power line and lighting system in the bridge now under construction over the Nanticoke River at Vienna, Maryland, will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M. on the 28th day of April, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.
No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.
The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.
The Commission reserves the right to reject any and all bids.
BY ORDER of the State Roads Commission this 14th day of April, 1931.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close May 19, 1931.

Cast Iron Pipe Line

Ormond, Fla.

Sealed proposals will be received by the Town of Ormond, a Municipal Corporation of Volusia County, Florida, through its Board of Zone Managers at the office of the Clerk of said Town at Ormond, Florida, until ten o'clock A. M. on the 19th day of May, A. D. 1931, for furnishing labor and material for the construction and laying of cast iron pipe in the Town of Ormond, Florida. The work will comprise about 3000 feet of 10 inch Diam. Cast Iron Pipe, on land and under water as provided by the plans and specifications of said project on file in the office of the Clerk of said Town of Ormond, Florida.
Bids will be received on the whole of said work, or any portion thereof.

Bids close May 19, 1931.

Plans and specifications may be examined at the office of the Town Clerk of Ormond, Florida, or may be obtained for the sum of \$15.00 on applying at the office of said Town Clerk.

Each bidder must accompany his bid with a certified cheque for \$1000.00 made payable to the order of L. O. Van Sickle, Clerk Town of Ormond, Florida.

The right is reserved to reject any or all bids either in whole or in part or to accept any bid either in whole or in part as the best interests of the Town may appear.

W. F. MORRIS, Chairman.

HENRY FUTCH.

J. HENRY DECUMBE.

As and constituting the Board of Zone Managers of said Town.

A. G. BOYNTON,
Engineer in Charge,
Ormond, Florida.

Gas Franchise

New Smyrna, Fla.

The City of New Smyrna, Florida, owns its own Municipal Electric and Water Plants and the City is now contemplating the construction of a gas plant. The City Commissioners would consider bona fide proposals from outside utilities in view of considering the granting of a franchise.

JNO. C. FERRIS,
City Manager.

Bids close May 4, 1931.

Wharves

Richmond, Va.

SEALED PROPOSALS WILL BE RECEIVED AT THE OFFICE OF THE DIRECTOR OF PUBLIC WORKS, RICHMOND, VA., UNTIL 3 O'CLOCK P. M., MAY 4, 1931, for the construction of Wharves, consisting of 220 lin. ft. of a gravity type concrete wall with alternate of a reinforced concrete platform type on concrete piles; and also 300 lin. ft. of creosoted timber wharf.

Form of Proposal, Plans and Specifications can be obtained on application.

A charge of \$5.00 will be made for these plans, etc., which sum will not be refunded.

A CERTIFIED CHECK for the amount stated (\$5000.00) on proposals must accompany each bid as a guaranty of execution of contract. The Director of Public Works reserves the right to reject any and all bids.

R. KEITH COMPTON,
Director Public Works,
City Hall.

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

FOR SALE OR TRADE

500 Acres in fee of valuable Fire Clay, Coal and Timber Lands, located in Carter County, Ky., on C. & O. Railway.
BOX 623, ASHLAND, KENTUCKY.

BAUXITE

WANTED—Market for Bauxite Ore; analysis 51.30% aluminum.
BOX 1028,
MONROE, LOUISIANA.

SAND AND GRAVEL

GRAVEL! SAND! GRAVEL! 320 acres; light, sandy over-burden; 20 to 40 feet strata; best commercial type; mile and half two railroads; 44 miles to Houston. Investigation invited. Hubier, Cleveland, Texas.

KENTUCKY FIRE CLAYS

FOR SALE

High grade Kentucky Flint semi-hard and Plastic Fire Clays, Mines located in Olive Hill District. Carter County Fire-clay Corp., Executive Office 212-214 Second National Bank Building, Ashland, Ky.

Rates, Terms and Conditions

RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

Rates for Special Contract:

100 lines 28c a line
300 lines 26c a line
500 lines or more 25c a line

TERMS: For transient advertising cash with order; check, postoffice or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

TIMBER AND TIMBER LANDS

FOR SALE—20,000 acres timber lands on railroad near Myrtle Beach, S. C., the famous year-round seaside resort, and the Inland Waterway now under construction. Jno. L. Williams, Box 1612, Greenville, S. C.

FARM, FRUIT AND TRUCK LANDS

FLORIDA

FOR SALE OR TRADE—135 acre Citrus Grove, 100 acres Valencia oranges. Near Winter Haven. RODDIS, 435 N. E. Second Ave., Miami, Fla.

TEXAS

LOWER RIO GRANDE Valley orchards and acreage at actual value. Owner's price direct to you. Send for list. ROBERTS REALTY CO., Realtors, McAllen, Tex.

VIRGINIA

865 ACRES near Richmond, Va. Fields, streams, woodland, buildings; lots of game. \$7.00 per acre.
OWNER, Box 441, Marion, N. C.

SOUTHERN ESTATE

ESTATE FOR SALE—41 acres on St. Johns River opposite Jacksonville, also 12-room residence in good location, only few blocks from business center of Jacksonville. A. G. Chappell, P. O. Box 392, Jacksonville, Fla.

BUSINESS AND INVESTMENT PROPERTIES

11,000 ACRE RANCH, in prospective oil and gas territory Southwest Texas, Winter Garden District. Soil adapted to growing citrus fruits, dates and early Winter vegetables. Will sell cheap. Address OWNER, Box 656, Houston, Texas.

BUSINESS OPPORTUNITIES

BUSINESS OPPORTUNITY—Modern Vertical Stripe Men's Hosiery Mills wants Manager. Must have not less than four thousand dollars to invest, also experience in manufacturing and selling half hose. Apply Box 35, Woodland, Ga.

FOR SALE—Mineral Spring Summer Resort, located in mountain section of Old Virginia, 100 acres land, good buildings, on good road; sacrifice price on easy terms. Twenty-five Thousand Dollars. Write owner, H. H. HUFFMAN, New Castle, Va.

WANTED TO SELL—87,000 acres of land lying in Morgan, Scott, Fentress, Cumberland and Roane Counties, Tenn.; terms. Known as Stanfield lands; rich in coal and iron; seven oil gushers and eight producing wells. All kinds of timber. Address R. T. WILLINGHAM, 106 Queens Court, San Antonio, Tex.

MANUFACTURERS—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Enright, St. Louis, Mo.

HAVE COMPLETE OUTFIT for two or three hundred thousand yard dirt job. Wish to bid with paving contractor financially competent. Or will rent cranes equipped as shovel, dragline or pile driver. Also other equipment. R. A. Helmer, care of Citizens' Bank, McClenny, Fla.

MANUFACTURERS—"Sell it quickly, easily and economically with slogans." An apt slogan employed in the advertising of a product overcomes sales resistance, through its never failing influence on the buying public, and adds that touch of individuality so essential in the production of effective advertising. FRANK P. JORDAN, SLOGANEER, 945 Birch St., Scranton, Pa.

SERVICE TO MANUFACTURERS needing additional manufacturing space, or branch outlet. Location—heart of city; railroad siding; automatic sprinkler system; ten thousand feet floor space available; suitable any type wholesale or manufacturing. We now occupy balance of building and need other articles to manufacture or would act as distributors. The M. S. Woods Co., Chattanooga, Tenn.

LOCATION WANTED for manufacturing loose leaf pasteless slip-in kodak album sheets to be sold through ten cent stores. Repeat article 100% manufacturing profit should net \$100.00 daily, giving employment to about 10 people. Management will be given entirely into hands of parties who acquire half interest in U. S. and Canadian patents thereon for \$2,000.00. Write P. O. Box 1079, Charleston, Kanawha Co., W. Va.

SAND WASHING PLANT FOR SALE Fully equipped, ready to run, located three miles from Wilmington, Delaware, on concrete road, capacity 250 tons per day, gasoline shovel, narrow gauge track gasoline locomotive, cheap power rates, also railroad siding. Can be purchased cheap or leased.

NEWPORT SUPPLY COMPANY,
Wilmington, Del.

BUSINESS OPPORTUNITIES

LONG TERM LOANS, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

PARKERSBURG.

Successful manufacturers are invited to join this city's colony of prosperous, medium sized, diversified industrial plants.

BOARD OF COMMERCE,
Parkersburg, West Virginia.

FOR SALE—Near Cheraw, S. C., forty acres mineral rights. New and beautiful granite. Pink, blue and white. Practically undeveloped. Used in one Bank Building in Cheraw, S. C. Fine quality granite for monumental work, building stone, street curbing or paving blocks. Samples on request.

LAWSON McCOMBS,
Route No. 3,
Salisbury, N. Car.

BUSINESS OPPORTUNITY: I have available suitable space, improved modern type machinery and equipment necessary for wood-working plant—furniture or other wood products. Also considerable standing timber. Would like to make connection with right party or parties interested in proposition of this kind. Would require some capital and absolute knowledge of business you would be interested in. Location good. Reputation already established for making A-1 products. Address No. 9103, care of Manufacturers Record, Baltimore, Md.

INDUSTRIAL SURVEYS

ENGINEERING REPORTS on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

TECHNICAL SERVICE CO.,
Woolworth Building New York City

INDUSTRIES WANTED

WELL-LOCATED Southern town wants industry. Will furnish plant, moving expenses, additional capital and other concessions.

INDUSTRIAL SERVICE CORP.,
Asheville, N. C.

INDUSTRIAL PLANTS

COTTON MILL—Will sacrifice. In heart of cotton belt—Mississippi. Sheeting, osnaburg and rope. Labor cheap and plentiful. Diesel oil engine. In operation. Price \$60,000. Will appraise \$300,000. 8500 spindles. W. D. Dobbins, 504 N. 21st St., Bham, Ala.

FACTORY SITES

TWO AND ONE-QUARTER MILES railroad frontage industrial sites for sale at Baton Rouge. Southern Land and Investment Company, Baton Rouge, La.

WEST VIRGINIA FACTORY SITE Adjoining town. Along with good water power electric plant. Also fuel oil auxiliary for emergency use. On railroad siding. Will lease or sell. Price reasonable. Development desired. Will offer inducements. Address No. 9097, care Manufacturers Record.

MANUFACTURING AND STORAGE SITES

Large body of land located in the City of Charlotte, North Carolina. One mile from center of city. Population ninety thousand. Land located in heart of Textile District. Available skilled labor. Accessible to Railroads, Street Railways, Hydro-Electric Power, Fronting Hard-surface Street; Water and Sewerage. Approximately two hundred acres. Ideal location for manufacturing and storing enterprises. Will sell upward to meet requirements.

PEGRAM-WADSWORTH LAND CO.

(Owners)
Office, 219 N. College St.,
Charlotte, N. Car.

PATENT ATTORNEYS

FREE "PATENT PARTICULARS" Sterling Buck, over 23 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

PATENTS—Booklet free. Highest references. Best results. Promptness assured. WATSON E. COLEMAN, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

PATENTS—TRADEMARKS—COPYRIGHTS Charlotte office convenient to South. PAUL B. EATON, Registered Patent Attorney, 1408 Johnston Building, Charlotte, N. C., and 314 McLachlen Building, Washington, D. C.

SEYMOUR & BRIGHT, Registered Patent Attorneys. Established 1876. PATENTS, TRADEMARKS, COPYRIGHTS. Prompt and thorough service. Suite 892, National Press Building, Washington, D. C.

REPRESENTATIVES WANTED

WE MAKE Water Conditioning Chemicals and desire to communicate with men now active, calling on the power trade or handling boiler room specialties. Work is highly remunerative. Address No. 9080, care of Manufacturers Record, Baltimore.

AGENCIES WANTED

ARE YOU LOOKING FOR REPRESENTATIVE IN ATLANTA OR BIRMINGHAM DISTRICTS? Division or local Manager and Representation solicited—fully qualified—20 years experience with Machinery and Mill Supplies. Enjoy wide and influential acquaintances throughout Atlanta and Birmingham districts. Detailed information regarding experience will be gladly furnished. Address No. 9101, care of Manufacturers Record.

SITUATIONS WANTED

POSITION WANTED by disabled Veteran as stenographer, assistant bookkeeper, bill clerk, dictaphone operator, salesman, typist, etc. Will consider work in printing office as linotype operator. EMORY LOFTIS, Route No. 4, Lake City, Florida.

MEN WANTED

IF YOU ARE OPEN to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty-one years. Send only name and address for details.

R. W. BIXBY, INC.,
103 Downtown Bldg. Buffalo, New York

MACHINERY AND SUPPLIES

WANTED—Belt driven air compressor, 25 to 30-foot capacity. Address THE MANHATTAN LAUNDRY, Manhattan, Kas.

ELECTRICAL MACHINERY For Sale—Motors and Generators, A.C. and D.C. New and Rebuilt. Attractive prices. Large Stock. Write for our Price List. V. M. NUSSBAUM & CO., Fort Wayne, Ind.

FOR SALE—12 cylindrical storage tanks. Will stand 250 pounds pressure. 48" diameter, 72" high, 1/4" steel shell, 3/8" convex heads, 3/4" concaved bottom. One seam in shell, double riveted. To move entire lot very close price made upon application. YODER & GORDON, INC., Norfolk, Va.

ELECTRIC MOTORS—Only a few left: New 10 H. P. 220 volt 60 cycle 3 phase, 1750 speed General Electric alternating current motors, ball bearing, double shaft extension, in original crates, each \$55.00. Also 20 H. P. 3450 Speed \$75.00. Subject to prior sales F.O.B. Chicago, sight draft attached. ELECTRICAL SURPLUS CO., 1885 Milwaukee Ave. Chicago, Ill.

Steel Manufacturers Please Note!

The Quaker City Iron Works, moving to larger quarters, will sell its present plant at a fraction of reproduction cost.

A modern Daylight Plant equipped for the manufacture of iron or steel products or suitable for structural shop, foundry machine shop or warehouse.

BUILDINGS consists of Main Shop, 117'x300'; 3 Crane Runways, Brick Power House, Office Building and Garage. Outer walls throughout practically all glass. Concrete and brick curtain walls. Ground area 58,000 sq. ft.—buildings 41,000 sq. ft. Also additional land and shop, 60'x120', if desired.

EQUIPMENT P. R. R. siding (3-car capacity) in main shop. 1 10-ton and 1 5-ton electric crane—4 2-ton hand cranes in shop. 1 2-ton hand crane in runway in yard. Power house has 200 H. P. Heine Steam Boiler, type E; Combustion Eng. Co. Stoker; 200 K. W. Electric Generator; Ames Uniflow Engine; air compressors.

IMMEDIATE POSSESSION

QUAKER CITY IRON WORKS

Richmond and Tioga Sts., Philadelphia

REGENT 6841

EAST 7884

In St. Louis Hotel Mayfair.....

8th and St. Charles

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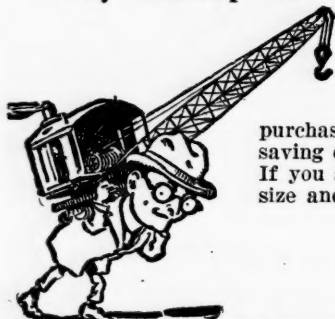
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Bids will be received on all or any part of the above equipment until 11.00 A. M., Tuesday, May 5, 1931.

All of the above equipment is located in Broward County, Florida, and may be examined by interested parties; further information may be obtained from the Engineer.

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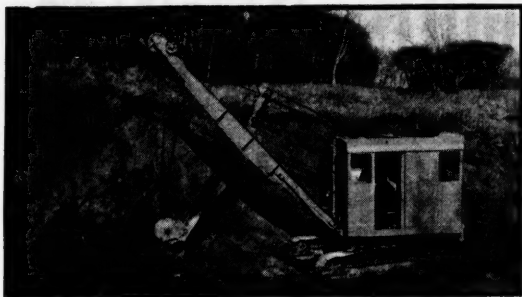
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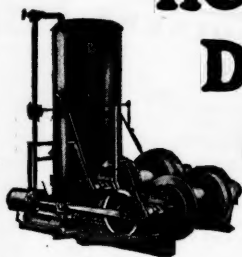
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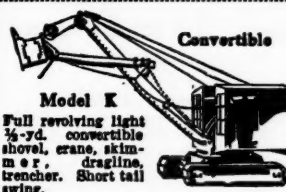
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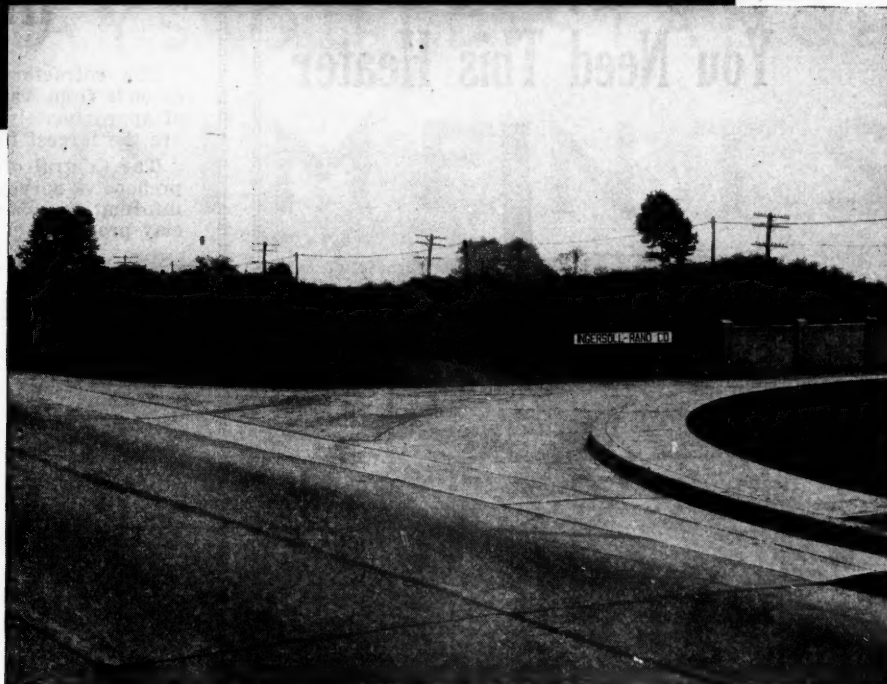
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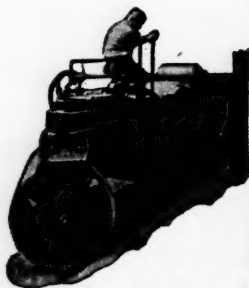
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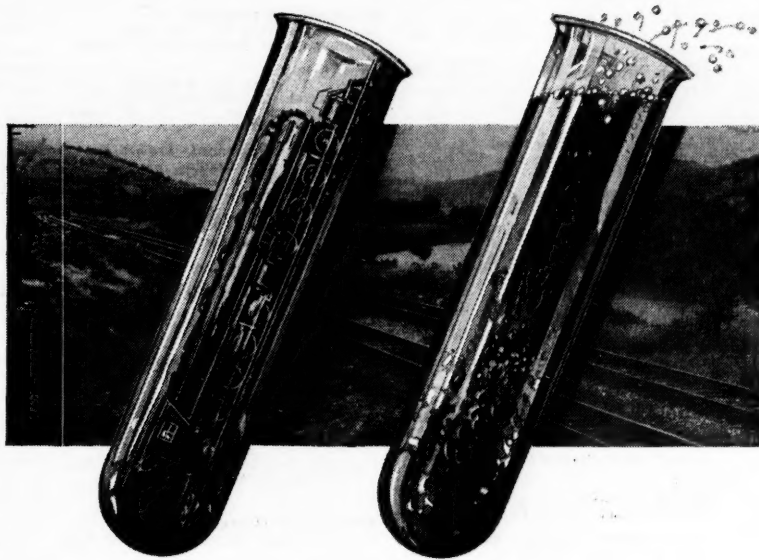
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All of the railroad's facilities, its fast freight and passenger schedules; its safety records and standards evidence experience. Last, but far from least, the estimation in which the Norfolk and Western Railway is held by both shippers and receivers of freight is a tribute to experience - - and many years of pleasant contact.

A word to the nearest Freight Traffic Department representative of the Norfolk and Western Railway will further justify the statement that experience will always outdistance experiments.

NORFOLK AND WESTERN RAILWAY
ROANOKE . . . VIRGINIA

Classified Reference Index for Buyers

ABRASIVE MATERIALS.

Carborundum Co., Niagara Falls, N. Y.

ACCOUNTANTS (Cert. and Cost.)

Audit Company of the South, Atlanta, Ga.
Ernst & Ernst, New York, N. Y.
Hollowell, Gorham & Co., Greensboro, N.C.

AIR COMPRESSORS (Stationary and Portable.)

De Laval Steam Turbine Co., Trenton, N.J.
General Electric Co., Schenectady, N. Y.
Quincy Compressor Co., Quincy, Ill.
Westinghouse Traction Brake Co., Wilmerding, Pa.

AIR HEATERS.

Babcock & Wilcox Co., New York.

AIRPORTS.

Shaw Co., Russell B., St. Louis, Mo.

ANGLE IRON-WORKING MACHINERY.

Whitney Metal Tool Co., Rockford, Ill.

APPRAISERS.

Conard, William R., Burlington, N. J.
Main, Inc., Chas. T., Boston, Mass.

ARCHITECTS.

Boney, Leslie N., Wilmington, N. C.
Chase, Wm., J. J., Atlanta.
Maile, Inc., Chas. T., Boston, Mass.
Milburn, Heister & Co., Wash., D. C.
Moyer Co., Tilghman, Allentown, Pa.
Preacher & Co., Inc., G. Lloyd, Atlanta.
Birrine & Co., J. E., Greenville, S. C.
Wheeler, Walter H., Minneapolis, Minn.

ARCHITECTS' SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

ARCHITECTURAL IRON WORK.

Dietrich Brothers, Baltimore, Md.
Virginia Bridge & Iron Co., Roanoke, Va.

ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.

—(Emulsified.)

Headley Emulsified Products Co., Philadelphia, Pa.

—Filler.

American Limestone Co., Knoxville, Tenn.
Servicised Products Corp., Chicago, Ill.

—Paving.

Barber Asphalt Co., Philadelphia, Pa.

—(Plants.)

Simplicity System Co., Chattanooga, Tenn.

AUDITORS.

Ernst & Ernst, New York, N. Y.
Hollowell, Gorham & Co., Greensboro, N.C.

BABBITT METAL.

Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

BACKFILLERS.

Buckeye Traction Ditcher Co., Findlay, Ohio.
Harnischfeger Corp., Milwaukee, Wis.
National Equipment Corp. (Insley, Parsons), Milwaukee, Wis.

BALLAST (Railroad.)

American Limestone Co., Knoxville, Tenn.

BANKERS and BROKERS.

Provident Savings Bank & Trust Co., Cincinnati, Ohio.

BANKS and TRUST COMPANIES.

Baltimore Commercial Bank, Balto., Md.
Baltimore Trust Co., Baltimore, Md.
First and Merchants National Bank, Richmond, Va.

BARGES (Steel.)

American Bridge Co., New York, N. Y.
McClintic-Marshall Co., Pittsburgh, Pa.

BARBS (Steel, Rounds, Flats, Hexagon and Squares.)

Carnegie Steel Co., Pittsburgh, Pa.
Cameron Steel Co., Birmingham, Ala.
Gulf States Steel Co., Birmingham, Ala.
Ingalls Iron Works Co., Birmingham, Tenn.
Knoxville Iron Co., Knoxville, Tenn.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Sweet's Steel Corp., Williamsport, Pa.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Timken Roller Bearing Co., Canton, O.
Virginia Bridge & Iron Co., Roanoke, Va.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

BATTERIES (Storage.)

Electric Storage Battery Co., Phila., Pa.

BEAMS, CHANNELS, ANGLES.

Belmont Iron Works, Philadelphia, Pa.
Carnegie Steel Co., Pittsburgh, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Virginia Bridge & Iron Co., Roanoke, Va.

BEARINGS (Anti-friction.)

Timken Roller Bearing Co., Canton, Ohio.

—(Roller.)

Timken Roller Bearing Co., Canton, Ohio.

BELT (Chain.)

Diamond Chain & Mfg. Co., Indianapolis.

—(Leather, Canvas, Rubber.)

Charlotte Leather Belting Co., Charlotte, N. C.
Republic Rubber Co., Youngstown, Ohio.

—Dressing.

Charlotte Leather Belting Co., Charlotte, N. C.
Dixon Crucible Co., Jos., Jersey City, N.J.

—Fasteners.

Flexible Steel Lacing Co., Chicago, Ill.

—Lacing (Steel Hinges.)

Flexible Steel Lacing Co., Chicago, Ill.

BELT CONVEYORS.

Barber-Greene Co., Aurora, Ill.

BILLETS (Basic Open Hearth.)

Gulf States Steel Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

BINS (Steel Loading.)

Blaw-Knox Co., Pittsburgh, Pa.
Butler Bin Co., Waukegan, Wis.

BLASTING POWDER and Accessories.

Du Pont de Nemours & Co., E. I., Wilmington, Del.

BLINDS (Venetian and Awning.)

Wilson Corp., The J. G., New York.

BLOCKS (Chain)

Wright Mfg. Co., Lisbon, Ohio.

—(Friction.)

Palmer Asbestos & Rubber Corp., Chicago.

—(Tackle, for Wire and Manila Rope.)

Patterson Co., W. W., Pittsburgh.

BOILERS (New.)

Babcock & Wilcox Co., The, New York.
Charleston Dry Dock & Machine Co., Charleston, S. C.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Cole Mfg. Co., E. D., Newnan, Ga.
Combustion Engr. Corp., New York, N. Y.
Hedges Walsh Weldner Co., Chattanooga, Tenn.
Lombard Iron Works & Supply Co., Augusta, Ga.
Lookout Boiler & Mfg. Co., Chattanooga, Tenn.
Schaffeld's Sons Co., J. S., Macon, Ga.
Titusville Iron Works Co., Titusville, Pa.

—(Oil.)

Babcock & Wilcox Co., New York.

—(Scotch Marine.)

Lookout Boiler & Mfg. Co., Chattanooga, Tenn.

—(Used.)

Delta Equipment Co., Philadelphia, Pa.
O'Brien Machinery Co., Philadelphia, Pa.
Randle Machinery Co., The, Cincinnati, O.
Zelicker Supply Co., W. A., St. Louis.

BOILER SETTINGS.

Babcock & Wilcox Co., New York.
Harbison-Walker Refractories Co., Pittsburg.

—Tubes.

Babcock & Wilcox Co., New York.
National Tube Co., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—Tubes (Charcoal, Iron.)

Reading Iron Co., Reading, Pa.

BOLTS, Rivets, Studs, Washers.

Bethlehem Steel Co., Bethlehem, Pa.
Oliver Iron & Steel Corp., Pittsburgh, Pa.
Progressive Mfg. Co., Torrington, Conn.
Russell, Burdell & Ward Bolt & Nut Co., Port Chester, N. Y.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Track.)

Sweet's Steel Co., Williamsport, Pa.

BOND BUYERS.

Hanchett Bond Co., Inc., The, Chicago.
Law & Co., A. M., Spartanburg, S. C.
Nurem & Co., John, Chicago, Ill.
Provident Savings Bank and Trust Co., Cincinnati, Ohio.

BOREINGS (Cores.)

Kennedy-Riegler Drilling Co., New York City.
Mott Core Drilling Co., Huntington, W. Va.
Pennsylvania Drilling Co., Pittsburgh, Pa.
Southern Drilling Co., Saltville, Va.
Sprague & Henwood, Inc., Scranton, Pa.

BOXES (Paper.)

Old Dominion Box Co., Lynchburg, Va.

BRAKE LINING

Palmer Asbestos & Rubber Corp., Chicago.

BRASS GOODS.

Mueller Co., Decatur, Ill.

BRICK (Common Building.)

Friend & Co., Inc., Petersburg, Va.

—(Vitrified, Paving.)

National Paving Brick Mfrs. Assn., Washington, D. C.

—and Clayworking Machy.

Steel & Sons, J. C., Statesville, N. C.

BRIDGE (Asphalt Planking)

Servicised Products Corp., Chicago, Ill.

—(Operating Machinery.)

Earle Gear & Machine Co., Phila., Pa.

—Slabs

Kerlow Steel Flooring Co., Jersey City, N.J.

—Timber.

American Crocoting Co., Louisville, Ky.
Kirby Lumber Co., Houston, Texas.

BRIDGES (Steel.)

American Bridge Co., New York, N. Y.
Belmont Iron Works, Philadelphia, Pa.
Bristol Steel & Iron Works, Inc., Bristol, Va.
Champion Bridge Co., Wilmington, O.
Converse Bridge & Steel Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
McClintic-Marshall Co., Pittsburgh, Pa.
Roanoke Iron & Bridge Works, Roanoke, Va.
Virginia Bridge & Iron Co., Roanoke, Va.

BRONZE (Architectural.)

Heath Company, J. S., Waukegan, Ill.
Michels Art Bronze Co., Covington, Ky.

BUBBLERS.

Bundle-Spence Mfg. Co., Milwaukee, Wis.

BUCKETS (Clam Shell.)

Blaw-Knox Co., Pittsburgh, Pa.
Industrial Brownhoist Corp., Cleveland, O.
Owen Bucket Co., The, Cleveland, Ohio.
Williams Company, G. H., Erie, Pa.

—(Coal.)

Owen Bucket Co., Cleveland, O.

—(Dredging, Excavating, Sewer, etc.)

Monaghan Mfg. Corp., Chicago, Ill.
Owen Bucket Co., The, Cleveland, Ohio.
Stuebner Iron Works, G. L., Long Island City, N. Y.
Williams Company, G. H., Erie, Pa.

—(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.

—(Material Handling.)

Owen Bucket Co., Cleveland, O.

—(Ore Handling.)

Owen Bucket Co., The, Cleveland, Ohio.
Stuebner Iron Works, G. L., Long Island City, N. Y.

—(Rehandling.)

Owen Bucket Co., Cleveland, O.

—(Sand and Gravel.)

Owen Bucket Co., Cleveland, O.
Williams Company, G. H., Erie, Pa.

BUILDERS and Contractors.

Copper Co., Inc., The John W., Richmond, Va.
Lockwood Greene Engrs., Inc., Boston.
Moyer Co., Tilghman, Allentown, Pa.
Thompson & Bros., T. C., Charlotte, N. C.
United Engineers & Constructors, Phila.
White Engineering Corp., J. G., New York.

BUILDINGS (Industrial.)

Belmont Iron Works, Philadelphia, Pa.
Blaw-Knox Co., Pittsburgh, Pa.
Butler Mfg. Co., Kansas City, Mo.
Ingalls Iron Works Co., Birmingham, Ala.
McClintic-Marshall Co., Pittsburgh, Pa.
Trucon Steel Co., Youngstown, O.
Virginia Bridge & Iron Co., Roanoke, Va.
—(Portable Sheet Metal.)
Birmingham Tank Co., Birmingham.
Butler Mfg. Co., Kansas City, Mo.

BULKHEADS.

Shore-Line Builders, Inc., Jacksonville, Fla.
Snare Corp., Frederick, New York, N. Y.

BULLDOZERS.

Trackson Co., Milwaukee, Wis.

BURLAP.

Fulton Bag & Cotton Mills, Atlanta, Ga.

BUSINESS METHODS.

Ernst & Ernst, New York, N. Y.

CABLE (Elevator.)

American Steel & Wire Co., Chicago, Ill.
Roebbing's Sons Co., John A., Trenton, N. J.

—(Stud Link.)

Woodhouse Chain Works, Trenton, N. J.

—and Wire (Electric.)

American Steel & Wire Co., Balto., Md.
Roebbing's Sons Co., John A., Trenton, N. J.
Western Electric Co., New York City.

CABLEWAYS (Overhead Suspension.)

Sauerman Bros., Chicago, Ill.

CALCIUM CHLORIDE.

Grasselli Chemical Co., Inc., Birmingham.

CAN and Box-Making Machinery (Tim.)

Bliss Co., E. W., Brooklyn, N. Y.
Robins & Co., A. K., Baltimore, Md.

CANNING MACHINERY.

Robins & Co., A. K., Baltimore, Md.

CANVAS.

Fulton Bag & Cotton Mills, Atlanta, Ga.

CAR (Loaders and Unloaders)

Barber-Greene Co., Aurora, Ill.

CARS (Dump, Industrial, Logging and Mine.)

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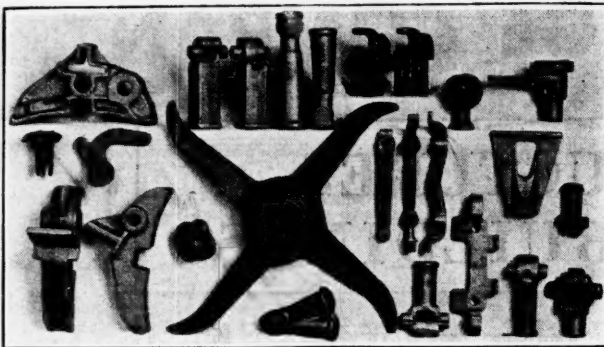
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Fuller Lehigh Co., Fullerton, Penna.

(Gray Iron.)
Fuller Lehigh Co., Fullerton, Penna.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
Jefferson Foundry Co., Birmingham, Ala.
National Cast Iron Pipe Co., Birmingham, Ala.
Richmond Foundry & Mfg. Co., Richmond, Va.
Salem Fdry. & Mch. Wks., Salem, Va.
Savannah Mch. & Fdry. Co., Savannah, Ga.
U.S. Pipe & Foundry Co., Burlington, N.J.

(Malleable Iron and Steel.)
Timken Roller Bearing Co., Canton, O.

(Semi-Steel.)
Jefferson Foundry Co., Birmingham, Ala.
Salem Fdry. & Mch. Wks., Salem, Va.

(Steel.)
Bethlehem Steel Co., Bethlehem, Pa.
Crucible Steel Casting Co., Lansdowne, Delaware Co., Pa.
Deemer Steel Casting Co., New Castle, Del.
Lunkenheimer Co., Cincinnati, Ohio.
Mountain State Steel Foundries, Parkersburg, W. Va.

CEILING (Metal.)
Milcor Steel Co., Milwaukee, Wis.

CEMENT (Portland.)
Alpha Portland Cement Corp., Birmingham, Ala.

(High Temperature.)
Harrison-Walker Refractories Co., Pittsburg.

"Guns."
Cement-Gun Co., Inc., Allentown, Pa.

Machinery.
Traylor Engr. & Mfg. Co., Allentown, Pa.

CHAIN BLOCKS (See Blocks, Chain.)

CHAINS (Dredge, Quarry, Steam, Shovel.)
Knoxville Iron Co., Knoxville, Tenn.
Woodhouse Chain Works, Trenton, N. J.

(High Speed Roller.)
Diamond Chain & Mfg. Co., Indianapolis

(Silent Drive.)
Diamond Chain & Mfg. Co., Indianapolis

(Sprocket.)
Chain Belt Co., Milwaukee, Wis.

(Welded.)
Woodhouse Chain Works, Trenton, N. J.

CHAIRS (Opera and Theatre.)
Andrews Co., A. H., Chicago, Ill.

CHEMICALS.
Davison Chemical Co., Baltimore, Md.
Grasselli Chemical Co., Inc., Birmingham

CHEMISTS, CHEMICAL ENGINEERS (Analytical.)
Barrow-Agee Laboratories, Memphis, Tenn.
Froehling & Robertson, Inc., Richmond, Va.
Hunt Co., Robert W., Chicago, Ill.
Longdale Laboratories, Inc., Richmond, Va.
Meigs, Bassett & Slaughter, Phila., Pa.
Moss, Jr., W. Wade, Columbus, Ga.
Pittsburgh Testing Laboratories, Pittsburgh, Pa.
Southwestern Laboratories, Fort Worth, Tex.
Stillman & Van Sicken, New York.

(Consulting, Paper Industry.)
Froehling & Robertson, Inc., Richmond, Va.

CHIMNEYS (Concrete.)
Rust Engineering Co., Birmingham, Ala.

(Radial Brick.)
Rust Engineering Co., Birmingham, Ala.

CHLORIDE ACCUMULATOR.
Electric Storage Battery Co., Phila., Pa.

CHUTES.
Cutler Mail Chute Co., Rochester, N. Y.

CIRCUIT BREAKERS.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CLOCKS (Watchman's Portable.)
Davis-Paradise Watchman's Clock Corp., New York, N. Y.

CLOTH (Wire.)
Newark Wire Cloth Co., Newark, N. J.

CLUTCHES (Friction.)
Caldwell Co., Inc., W. E., Louisville, Ky.

COAL (Bituminous.)
Steel-Shield Steel & Iron Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—and Ash-Handling Mch.
Chain Belt Co., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago.

—Tipples.
American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.

COATINGS (Protective.)
Headley Enamelled Products Co., Philadelphia, Pa.

COCKS (Service.)
Morco Nordstrom Valve Co., San Francisco, Calif.

COKE.
Steel-Shield Steel & Iron Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

COLUMNS (Cast Iron.)
U. S. Pipe & Fdry. Co., Burlington, N. J.

CONCRETE (Block Machinery.)
Blystone Mfg. Co., Cambridge Springs, Pa.

—Construction (Reinforced.)
Cement-Gun Co., Inc., Allentown, Pa.
Cement Gun Construction Co., Chicago.
Rust Engineering Co., Birmingham, Ala.

—Floor Slabs.
Federal-American Cement Tile Co., Chicago.

—Mixers.
Blystone Mfg. Co., Cambridge Springs, Pa.
Chain Belt Co., Milwaukee, Wis.
Dunning & Bochart Press Co., Inc., Syracuse, N. Y.
Jasger Machine Co., Columbus, Ohio.
Lansing Co., Lansing, Mich.

—Pipe Machinery (See Pipe Machinery, Concrete.)

—Placing Equipment.
National Equipment Corp. (Insley Division), Milwaukee, Wis.

—Roofing Tile.
Federal-American Cement Tile Co., Chicago.

CONDENSERS.
Manitowoc Iron Works Co., Manitowoc, Mich.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CONDUITS (Electric, Interior, Steel.)
Western Electric Co., New York, N. Y.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

CONTRACTORS (Bridge.)
Kansas City Bridge Co., Kansas City, Mo.
Snare Corp., Frederick, New York.

—(Drainage and Dredging.)
Arundel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York.

—(Electrical.)
Virginia Engineering Co., Inc., Newport News, Va.
Walker Electrical Co., Atlanta, Ga.
Warner Service Co., Knoxville, Tenn.
Webb Electric Co., Anderson, S. C.

—(Foundations and Dams.)
Snare Corp., Frederick, New York, N. Y.

—(General.)
Angle-Blackford Co., Greensboro, N. C.
Blair, Algeron, Montgomery, Ala.
Burke, Inc., J. V. & B. T., New Orleans.
Cornell Young Co., Inc., Macon, Ga.
Cooper Co., Inc., John W., Richmond, Va.
Fiske-Carter Constr. Co., Greenville, S. C.
Gridley Constr. Co., Lee A., Knoxville, Tenn.
Saville, Inc., Allen J., Richmond, Va.

Smallman-MacQueen Construction Co., Birmingham.
 Snare Corp., Frederick, New York, N. Y.
 Thompson & Bros., T. C., Charlotte, N. C.
 Tucker & Laxon, Charlotte, N. C.
 White Engineering Corp., J. G., New York.

—(Industrial Buildings.)
 Angle-Blackford Co., Greensboro, N. C.
 Blair, Algernon, Montgomery, Ala.
 Cowper Co., Inc., John W., Richmond, Va.
 Flake-Carter Constr. Co., Greenville, S. C.
 Lockwood Greene Engrs., Inc., Boston.
 Smallman-MacQueen Construction Co., Birmingham.
 Snare Corp., Frederick, New York, N. Y.
 Thompson & Bros., T. C., Charlotte, N. C.
 Tucker & Laxon, Charlotte, N. C.
 Virginia Engineering Co., Inc., Newport News, Va.
 White Engineering Corp., J. G., New York.

—Mill Village.
 Hornbuckle Contracting Co., Atlanta, Ga.

—(Power Piping.)
 Poe Piping & Heating Co., Greenville, S. C.

—(Power Plants.)
 Snare Corp., Frederick, New York, N. Y.
 Virginia Engineering Co., Inc., Newport News, Va.

—(Railroad.)
 Cornell-Young Co., Inc., Macon, Ga.

—(Reinforced Concrete.)
 Blair, Algernon, Montgomery, Ala.
 Cement Gun Construction Co., Chicago.
 Gunite Const. & Constr. Co., Kansas City.
 Tucker & Laxon, Charlotte, N. C.

—(Road and Street Paving.)
 Flake-Carter Constr. Co., Greenville, S. C.
 Gridley Constr. Co., Lee A., Knoxville, Tenn.
 Hornbuckle Contracting Co., Atlanta, Ga.
 McCrary Co., J. B., Atlanta, Ga.
 Virginia Engineering Co., Inc., Newport News, Va.

—(Sewerage and Waterworks.)
 Gridley Constr. Co., Lee A., Knoxville, Tenn.
 Hardaway Contracting Co., Columbus, Ga.
 Hornbuckle Contracting Co., Atlanta, Ga.
 McCrary Co., The J. B., Atlanta, Ga.
 Snare Corp., Frederick, New York, N. Y.
 Tucker & Laxon, Charlotte, N. C.
 Virginia Engineering Co., Inc., Newport News, Va.

—(Sprinkler System.)
 Poe Piping & Heating Co., Greenville, S. C.

—(Water-Works.)
 Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

—Machinery and Supplies.
 (New.)
 Bay City Shovel, Inc., Bay City, Mich.

—Machinery and Supplies.
 (Used.)
 Adams Mch. Co., T. G., Savannah, Ga.
 Lima Excavator Sales Agency, Lima, Ohio.
 Marine Metal & Supply Co., New York.
 Phillips, Inc., Chester A., Chicago.

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 (See following classifications:)
 Boiler and Tank Work.
 Castings.
 Forgings.
 Foundries and Machine Shops.
 Machinery (Special).
 Ornamental Iron Work.
 Patterns.
 Sheet Metal Work.
 Structural Steel and Iron.
 Welding Plants.

CONVEYING AND ELEVATING MACHINERY.
 Barber-Greene Co., Aurora, Ill.
 Chain Belt Co., Milwaukee, Wis.
 Fairfield Engr. Co., Marion, Ohio.
 Universal Crusher Co., Cedar Rapids, Ia.

CONVEYORS (Portable, Power-Driven.)
 Clark Tractor Co., Battle Creek, Mich.
 Fairfield Engr. Co., Marion, Ohio.

COBBER BEAD.
 Milcor Steel Company, Milwaukee, Wis.

COTTON GIN MACHINERY.
 Continental Gin Co., Birmingham, Ala.

COUPLINGS.
 Golden' Fdy. & Mch. Co., Columbus, Ga.

—(Flexible.)
 Diamond Chain & Mfg. Co., Indianapolis, Ind.

CRANES
 Industrial Brownhoist Corp., Cleveland, O.
 National Equipment Co. (Insley, Koehr ing, Parsons), Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

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 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
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 Thew Shovel Co., The, Lorain, Ohio.

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 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

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 Harnischfeger Corp., Milwaukee, Wis.
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 Northwest Engineering Co., Chicago, Ill.
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—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
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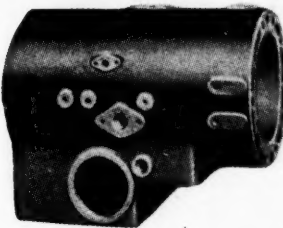
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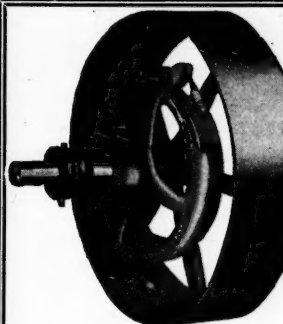


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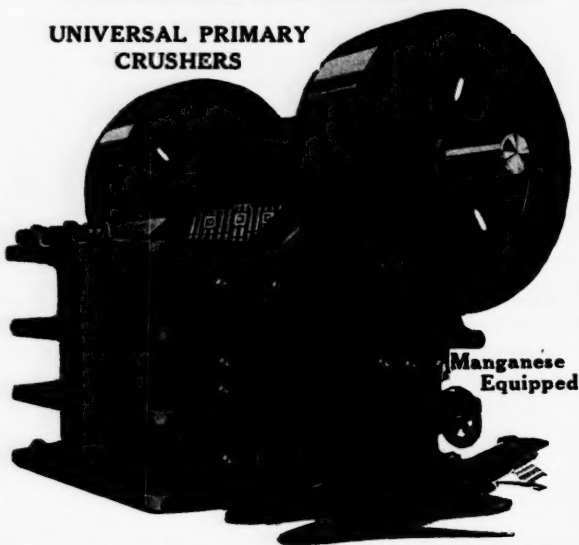
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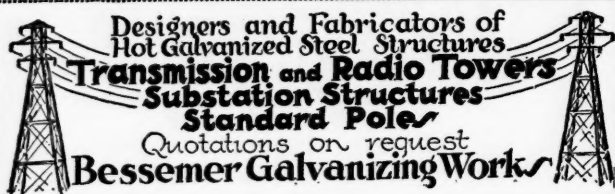
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 Hills Company, Geo. B., Jacksonville, Fla.
 Huey, S. E., Monroe, La.
 Lockwood Greene Engrs., Inc., New York.
 Southern Erectors, Inc., Tampa, Fla.
 Turner, C. A. P., Minneapolis, Minn.
 United Engineers & Constructors, Phila.
 Virginia Bridge & Iron Co., Roanoke, Va.
 Whitman, Requardt & Smith, Balto., Md.

—(Textile Mills.)

Lockwood Greene, Engrs., Inc., New York.
 Main, Inc., Chas. T., Boston, Mass.
 Silline & Co., J. E., Greenville, S. C.

—(Transmission Lines.)

Hosler Engineering Co., Chicago, Ill.

—(Ventilating and Heating.)

Wiley & Wilson, Lynchburg, Va.

—(Water Supply.)

Whitman, Requardt & Smith, Balto., Md.

ENGINES (Compressed Air.)
 Dake Engine Co., Grand Haven, Mich.

—(Diesel Type.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Gas and Gasoline.)

Sterling Engine Co., Buffalo, N. Y.

—(Marine.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Oil.)

Continental Gin Co., Birmingham, Ala.

—(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
 Cole Mfg. Co., R. D., Newnan, Ga.
 Lombard Iron Works & Supply Co., Au-
 gusta, Ga.
 Schofield's Sons Co., J. S., Macon, Ga.

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 Bucyrus-Erie Co., Erie, Penna.
 Harnischfeger Corp., Milwaukee, Wis.
 Industrial Brownhoist Corp., Cleveland.
 Monaghan Mfg. Corp., Chicago, Ill.
 National Equipment Corp. (Kochring,
 Insley, Parsons), Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.
 Owen Bucket Co., The, Cleveland, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

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 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., Lorain, Ohio.

—(Dragline. See Dragline Ex-
 cavators.)

—(Trench.)

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 Bay City Shovels, Inc., Bay City, Mich.
 Buckeye Traction Ditcher Co., Findlay,
 Ohio.
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 Ohio Power Shovel Co., Lima, Ohio.

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 Serviced Products Corp., Chicago, Ill.

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 Ernst & Ernst, New York, N. Y.

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 Cyclone Fence Co., Waukegan, Ill.
 Gulf States Steel Co., Birmingham, Ala.

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Congoleum-Nairn, Inc., Kearny, N. J.

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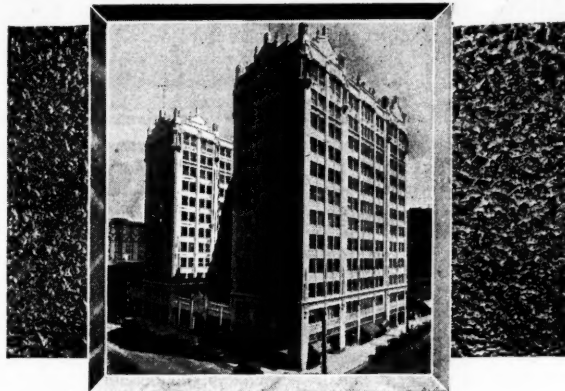
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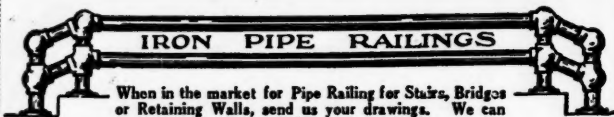
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Chicago Bridge & Iron Wks., Atlanta, Ga.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Smith Co., S. Morgan, York, Pa.

PERFORATED METAL.

Chicago Perforating Co., Chicago, Ill.
Erdle Perforating Co., Rochester, N. Y.
Harrington & King Perf. Co., Chicago.
Hendrick Mfg. Co., Carbondale, Pa.
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.
Mundt & Sons, Charles, Jersey City, N. J.

PETROLEUM REFINERS.

Gulf Refining Co., Pittsburgh, Pa.
White Oak Corp., Tulsa, Okla.

PHOSPHATE ACID.

Davison Chemical Co., Baltimore, Md.

PIG-IRON.

Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

PILING (Crescoted.)

Amer. Crescote Wks., Inc., New Orleans.
Amer. Crescoting Co., Inc., Louisville, Ky.
Ayer & Lord Tie Co., Inc., Chicago.
Savannah Crescoting Co., Inc., Savannah.
Wales Wood-Preserving Co., Norfolk, Va.

—(Steel Sheet.)

Carnegie Steel Co., Pittsburgh, Pa.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Zelicker Supply Co., W. A., St. Louis.

—(Yellow Pine.)

Jackson Lumber Co., Lockhart, Ala.

PILLOW BLOCKS.

Goldens' Fdry. & Mch. Co., Columbus, Ga.

PIPE.

Albert & Davidson Pipe Corp., Brooklyn, N. Y.
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.
Birmingham Boiler & Engr. Co., Birmingham, Ala.
Central Pipe & Supply Co., Charleston, W. Va.
Greenspoint Iron & Pipe Co., Inc., Brooklyn, N. Y.
Greenspon's Sons Iron & Steel Co., St. Louis, Mo.
Hudson Pipe & Supply Co., Bayonne, N. J.
Maryland Pipe & Steel Corp., Baltimore, Md.
National Tube Co., Pittsburgh, Pa.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.

—(Cast Iron.)

Amer. Cast Iron Pipe Co., Birmingham.
Cast Iron Pipe Research Assn., Chicago.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
National Cast Iron Pipe Co., Birmingham, Ala.
U. S. Pipe & Fdry. Co., Burlington, N. J.

—(Dredge.)

Lancaster Iron Works, Inc., Lancaster, Pa.

—(Hammer-Welded.)

National Tube Co., Pittsburgh, Pa.

—(Iron and Steel.)

American Rolling Mill Co., Middletown.

—(Second-Hand.)

Albert & Davidson Pipe Corp., Brooklyn, N. Y.
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.
Central Pipe & Sup. Co., Charleston, W. Va.

Greenspoint Iron & Pipe Co., Inc., Brooklyn, N. Y.
Greenspon's Sons Iron & Steel Co., St. Louis, Mo.
Hudson Pipe & Supply Co., Bayonne, N. J.
Marine Metal & Supply Co., New York.
Maryland Pipe & Steel Corp., Baltimore, Md.

—(Spiral Riveted.)

Taylor Forge & Pipe Wks., Chicago, Ill.

—(Spiral Welded.)

American Rolling Mill Co., Middletown.

—(Steel.)

Bethlehem Steel Co., Bethlehem, Pa.
Chicago Bridge & Iron Wks., Atlanta, Ga.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
National Tube Co., Pittsburgh, Pa.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

—(Steel, Large Diameter.)

Alco Products, Inc., New York, N. Y.

—(Welded.)

Welded Products Co. of La., Inc., New Orleans, La.

—(Wrought Iron.)

Reading Iron Co., Reading, Pa.

—Benders and Headers.

Grinnell Co., Inc., Providence, R. I.

—Bending Machines.

American Pipe Bending Machine Co., Boston, Mass.

—Covering (Cork.)

United Cork Companies, Lyndhurst, N. J.

—Fittings.

Amer. Cast Iron Pipe Co., Birmingham.
Georgia Iron Works, Augusta, Ga.
Grinnell Co., Inc., Providence, R. I.

—Machinery (Concrete.)

Quinn Wire & Iron Works, Boone, Iowa.

—Unions and Joints.

Dart Mfg. Co., E. M., Providence, R. I.

—Systems (Industrial.)

Grinnell Co., Inc., Providence, R. I.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.
Southern Automatic Sprinkler Company, Birmingham.

PITCH

Barrett Co., The, New York, N. Y.

PLATES (Steel.)

American Rolling Mill Co., Middletown.
Bethlehem Steel Co., Bethlehem, Pa.
Carnegie Steel Co., Pittsburgh, Pa.
Central Iron & Steel Co., Harrisburg, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Granite City Steel Co., Granite City, Ill.
Gulf States Steel Co., Birmingham, Ala.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham.

POLES (Crescoted.)

Amer. Crescote Wks., Inc., New Orleans.
Amer. Crescoting Co., Inc., Louisville, Ky.
Ayer & Lord Tie Co., Inc., Chicago.
Brown Wood Preserving Co., Louisville, Ky.
Savannah Crescoting Co., Savannah, Ga.

—(Tubular, Steel.)

National Tube Co., Pittsburgh, Pa.

—(Yellow Pine.)

Jackson Lumber Co., Lockhart, Ala.
Curtin-Howe Corp., New York City

POLISHING MACHINERY.

(Wheels, Blocks.)
Carborundum Co., Niagara Falls, N. Y.

POSTS, (Cast Iron, Railway and Highway.)

U. S. Pipe & Foundry Co., Burlington, N. J.

POWER TRANSMISSION MACHINERY.

Diamond Chain & Mfg. Co., Indianapolis.
Goldens' Fdry. & Mch. Co., Columbus, Ga.
O'Brien Machinery Co., Phila., Pa.
Schaeffler's Sons Co., J. B., Macon, Ga.

PREHEATERS (Air.)

Combustion Engr. Corp., New York City

PRESSES, (Baling, Cottonseed Oil, Hydraulic and Power.)

Dunning & Boschert Press Co., Inc., Syracuse, N. Y.
Ripley Foundry & Machine Co., Ripley, O.
Tomlin-Harris Machine Co., Cordale, Ga.
—(Metal Stamping.)
Bliss Co., E. W. Brooklyn, N. Y.

PRINTERS (Book, Catalog, Job.)
Smith & Son Co., Oscar T., Baltimore, Md.
Young & Selden Co., Baltimore, Md.

PRODUCER (Gas Machines.)
Gas-O-Flame Store Wks., Port Deposit, Md.
Weed & Co., E. D., Phila., Pa.

PULLEYS (Friction Clutch.)
Caldwell Co., Inc., W. E., Louisville, Ky.

—Shafting and Hangers.
Goldens' Fdy. & Mch. Co., Columbus, Ga.

PULVERIZED COAL EQUIPMENT.
Combustion Engr. Corp., New York, N. Y.
Fuller Lehigh Co., Fullerton, Pa.

PULVERIZERS (See Crushing and Pulverizing Machinery.)

PUMPING MACHINERY.
American Well Works, Aurora, Ill.
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.
Chain Belt Co., Milwaukee, Wis.
Cook, Inc., A. D., Lawrenceburg, Ind.
Fairbanks, Morse & Co., Chicago, Ill.
Myers & Bro. Co., The F. E., Ashland, O.
National Equipment Corp., (C. E. & E. Division), Milwaukee, Wis.
Petersburg Mchry. Pump & Well Co., Petersburg, Va.
Virginia Mchry. & Well Co., Richmond, Va.

PUMPS (Air.)
Manistee Iron Works Co., Manistee, Mich.

—(Boiler Feed.)
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.
DeLaval Steam Turbine Co., Trenton, N. J.
Erie Pump & Engine Wks., Medina, N. Y.
Manistee Iron Works Co., Manistee, Mich.
Myers & Bro. Co., The F. E., Ashland, O.

—(Centrifugal.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Well Works, Aurora, Ill.
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.
DeLaval Steam Turbine Co., Trenton, N. J.
Erie Pump & Engine Wks., Medina, N. Y.
Fairbanks, Morse & Co., Chicago, Ill.
Jaeger Machine Co., Columbus, Ohio.
La Bour Co., Elkhart, Ind.
Layne & Bowler, Inc., Memphis, Tenn.
Manistee Iron Works Co., Manistee, Mich.

—(Contractors.)
Erie Pump & Engine Wks., Medina, N. Y.

—(Deep Well.)
American Well Works, Aurora, Ill.
Cook, Inc., A. D., Lawrenceburg, Ind.
Layne & Bowler, Inc., Memphis, Tenn.

—(Hydraulic.)
Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

—(Power.)
American Well Works, Aurora, Ill.
Sterling Engine Co., Buffalo, N. Y.

—(Pulverized Coal.)
Fuller Lehigh Co., Fullerton, Pa.

—(Sand and Dredging.)
Erie Pump & Engine Wks., Medina, N. Y.
Georgia Iron Works, Augusta, Ga.

—(Steam.)
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.
Fairbanks, Morse & Co., Chicago, Ill.

—(Water Works.)
American Well Works, Aurora, Ill.
Layne & Bowler, Inc., Memphis, Tenn.
Manistee Iron Works Co., Manistee, Mich.

PUNCHING AND SHEARING MACHINERY.
Bliss Co., E. W., Brooklyn, N. Y.
Whitney Metal Tool Co., Rockford, Ill.

RACK RAKES.
Newport, News Shipbuilding & Drydock Co., Newport News, Va.

RADIATOR ENCLOSURES.
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

RAILINGS (Iron Pipe.)
Pipe Railing Constr. Co., Long Island City, N. Y.

RAILROAD Equipment and Supplies (New.)
Robinson & Orr, Pittsburgh, Pa.

—Equipment and Supplies (Used.)
Levis & Co., Henry, Philadelphia, Pa.
Smith & Co., W. M., Birmingham, Ala.
Southern Iron and Equip. Co., Atlanta.
Zelicker Supply Co., W. A., St. Louis.

—(Frogs and Switches.)
Bethlehem Steel Co., Bethlehem, Pa.
Robinson & Orr, Pittsburgh, Pa.

RAILROADS — (Offering Industrial, Agricultural and Commercial Opportunities.)

Atlanta and West Point R. R., Atlanta
Central of Georgia Rwy., Savannah, Ga.
Missouri-Kansas-Texas Lines, Dallas, Tex.
Model Land Company, Flagler System, St. Augustine, Fla.
Norfolk & Western Railway, Roanoke, Va.
Tennessee Central Railway, Nashville.

RAILS (New and Used.)
Carnegie Steel Co., Pittsburgh, Pa.
Levis & Co., Henry, Philadelphia, Pa.
Perry, Buxton, Doane Co., Philadelphia
Robinson & Orr, Pittsburgh, Pa.
Smith & Co., W. M., Birmingham, Ala.
Southern Iron & Equip. Co., Atlanta, Ga.
Sweet's Steel Co., Williamsport, Pa.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Zelicker Supply Co., W. A., St. Louis.

RAILWAYS (Industrial.)
Easton Car & Construction Co., Easton, Pa.

—(Marine.)
Charleston Dry Dock and Machine Co., Charleston, S. C.

RECEPTACLES (Self-Closing — Waste Paper.)
Whitaker Paper Co., Baltimore, Md.

REFRACTORIES.
Harrison-Walker Refractories Co., Pittsburgh, Pa.

REFRIGERATING Machinery (See Ice and Refrigerating Machinery and Supplies.)

REINFORCING for Concrete.
American Steel and Wire Co., Balto., Md.
Carnegie Steel Co., Pittsburgh, Pa.
Connors Steel Co., Birmingham, Ala.
Dietrich Brothers, Baltimore, Md.
Gulf States Steel Co., Birmingham, Ala.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Knoxville Iron Co., Knoxville, Tenn.
Oliver Iron & Steel Corp., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Southern Engineering Co., Charlotte, N. C.
Truscon Steel Co., Youngstown, Ohio.

RIVER & HARBOR IMPROVEMENTS, (Dredging, Docks, Wharves, etc.)
Arundel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York
Kansas City Bridge Co., Kansas City.

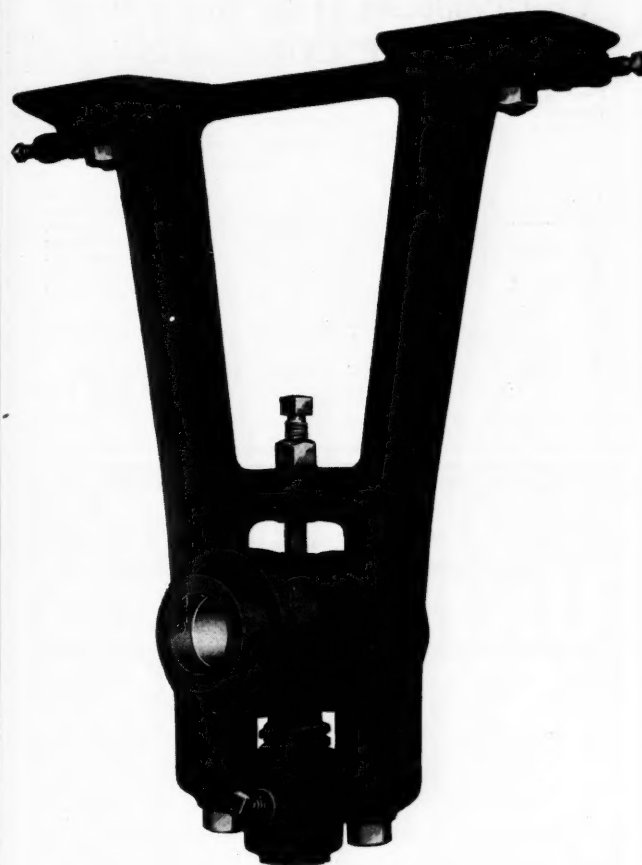
RIVETS.
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

ROAD and Street Machinery.
Acme Road Mchry. Co., Frankfort, N. Y.
Adams Co., J. D., Indianapolis, Ind.
Austin-Western Road Machinery Co., Chicago.
Blaw-Knox Co., Pittsburgh, Pa.
Buffalo-Springfield Roller Co., Springfield, O.
Caterpillar Tractor Co., Peoria, Ill.
Erie Machine Shops, Erie, Pa.
Harris Co., B. W. & Leo, Minneapolis, Minn.
Huber Mfg. Co., The, Marion, Ohio.
Universal Crane Co., Lorain, Ohio.

—and Street Material.
Boxley & Co., W. W., Roanoke, Va.
Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.
Truscon Steel Co., Youngstown, Ohio.
Woodstock Slag Corp., Birmingham, Ala.

—Graders and Scrapers.
Austin-Western Road Mchry. Co., Chicago.
Caterpillar Tractor Co., Peoria, Ill.

—Oils and Preservatives.
Gulf Refining Co., Pittsburgh, Pa.



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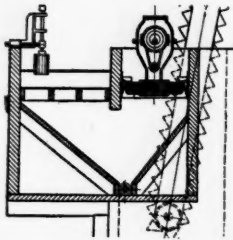
We have patterns for, and can furnish
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of Structural Steel and Concrete Reinforcing Bars
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Office and Plant: **CHARLOTTE, N. C.**

**SOUTHERN
ENGINEERING
COMPANY**

—Rollers (Steam and Gasoline.)
Austin-Western Road Mch. Co., Chicago.
Buffalo-Springfield Roller Co., Spring-
field, O.
Erie Machine Shops, Erie, Pa.
Huber Mfg. Co., The, Marion, Ohio.

—Scarifiers.
Austin-Western Road Mch. Co., Chicago.
Buffalo-Springfield Roller Co., Spring-
field, O.

ROOF INSULATION.
Armstrong Cork & Insulation Co., Lan-
caster, Pa.
United Cork Companies, Lyndhurst, N. J.

ROOFING (Asphalt Built-Up.)
Barber Asphalt Co., Philadelphia, Pa.

—(Ready Prepared, Felt, Tar,
Asbestos, Asphalt.)
Barrett Co., The, New York, N. Y.
Ruberoid Co., New York City.
Servicised Products Corp., Chicago, Ill.

—and Siding (Composition.)
Ruberoid Co., New York City.

—and Siding (Metal.)
American Rolling Mill Co., Middletown, O.
American Sheet and Tin Plate Co., Pitts-
burgh, Pa.
Gulf State Steel Co., Birmingham, Ala.
Milcor Steel Co., Milwaukee, Wis.
Ryerson & Son, Jos. T., St. Louis and
New York.
Truscon Steel Co., Youngstown, Ohio.
Youngstown Sheet and Tube Co., Youngs-
town, O.

—Tile, Cement (Interlocking
Flat, Channel Glass.)
Federal-American Cement Tile Co., Chicago.

—Tiles.
Federal-American Cement Tile Co., Chicago.

RULES (Steel.)
Lufkin Rule Co., Saginaw, Mich.

SAFES.
York Safe & Lock Co., York, Penna.

SAND.
Arundel Corp., Baltimore, Md.
Friend & Co., Inc., Petersburg, Va.
Georgia Sand & Gravel Co., Augusta, Ga.

SANITARY Drinking Fountains.
Rundle-Spence Mfg. Co., Milwaukee, Wis.

SASH (Industrial.)
Truscon Steel Co., Youngstown, Ohio.

SAWMILL Machinery.
Schofield's Sons Co., J. S., Macon, Ga.

SAW RIGS.
National Equipment Corp., (C. H. & E.
Division), Milwaukee, Wis.

SAWS (Cold Metal.)
Earle Gear and Machine Co., Phila. Pa.

—(Electric Hand.)
Skillsaw, Inc., Chicago, Ill.

SCAFFOLDING (Wooden.)
Patent Scaffolding Co., Chicago, Ill.

SCRAPERS (Drag and Wheel.)
Adams Co., J. D., Indianapolis, Ind.
Austin-Western Road Mch. Co., Chicago.
Harris Co., B. W. & Leo, Minneapolis,
Minn.
Sauerman Bros., Chicago, Ill.

SCRAP IRON AND STEEL.
Hunts Sons, M. J., Philadelphia, Pa.
Perry, Buxton, Doane Co., Philadelphia.
Smith & Co., W. M., Birmingham, Ala.

SCREEN CLOTH.
Seneca Wire & Mfg. Co., Fostoria, Ohio.

**SCREENING (For Concrete and
Road Construction.)**
American Limestone Co., Knoxville, Tenn.

**SCREENS (Sand, Gravel, Stone,
Coal, Ore, etc.)**
Chicago Perforating Co., Chicago, Ill.
Diamond Iron Works, Minneapolis, Minn.
Erdle Perforating Co., Rochester, N. Y.

Hendrick Mfg. Co., Carbondale, Pa.
Mundt & Sons, Charles, Jersey City, N. J.
Universal Crusher Co., Cedar Rapids, Ia.

—(Sifting.)
Newark Wire Cloth Co., Newark, N. J.

SCREW-Machine Products.
Progressive Mfg. Co., Torrington, Conn.

SCREWS (Machine.)
Progressive Mfg. Co., Torrington, Conn.

SEAWALLS.
Shore-Line Builders, Inc., Jacksonville, Fla.

SEPARATORS (Dust.)
Raymond Bros., Impact Pulv. Co., Chicago.

SEWAGE Disposal Apparatus.
Pacific Flush-Tank Co., New York, N. Y.

SEWER Joint Compounds.
Pacific Flush-Tank Co., New York, N. Y.
Servicised Products Corp., Chicago, Ill.

—Pipe (Vitrified.)
Bannon Pipe Co., Louisville, Ky.
Lee Clay Products Co., Clearfield, Ky.
Owensboro Sewer Pipe Co., Owensboro, Ky.

—Pipe Machinery (Concrete.)
Quinn Wire & Iron Works, Boone, Iowa.

SHAFTING.
Ryerson & Sons, Inc., Jos. T., St. Louis
and New York.

—Material (Tubular.)
National Tube Co., Pittsburgh, Pa.

SHARPENING Stones.
Carborundum Co., Niagara Falls, N. Y.

**SHEET Metal Working Ma-
chinery.**
Bliss Co., E. W., Brooklyn, N. Y.
Whitney Metal Tool Co., Rockford, Ill.
Yoder Co., The, Cleveland, Ohio.

—Steel and Iron.
American Sheet and Tin Plate Co., Pitts-
burgh, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Granite City Steel Co., Granite City, Ill.
Gulf States Steel Co., Birmingham, Ala.
Ryerson & Son, Inc., Jos. T., St. Louis
and New York.
Tennessee Coal, Iron & Railroad Co.,
Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngs-
town, O.

SHEETS (Asbestos.)
Ruberoid Co., New York City.

—(Galvanized and Black.)
American Rolling Mill Co., Middletown.

SHINGLES (Asbestos.)
Ruberoid Co., New York City.

**SHOVELS (Steam, Gas and
Electric Power.)**
Buckeye Traction Ditcher Co., Findlay,
Ohio.

Bucyrus-Erie Co., Erie, Penna.
Harnischfeger Corp., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland, O.
National Equipment Corp., (Kochring,
Inley), Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

SHUTTERS (Steel.)
Merchant & Evans Co., Philadelphia, Pa.

SIEVES (Testing.)
Newark Wire Cloth Co., Newark, N. J.

SIGNALS (Danger.)
Toledo Pressed Steel Co., Toledo, Ohio.

SILICATE OF SODA.
Grasselli Chemical Co., Inc., Birmingham.

SITES (Manufacturing.)
Alabama Power Co., Birmingham, Ala.
Atlanta and West Point R. R., Atlanta.
Brown & Co., Chattanooga, Tenn.
Central of Georgia Ry., Savannah, Ga.

Fort Worth Chamber of Commerce, Fort Worth, Texas.
Galveston, City of, Galveston, Texas.
Georgia Power Co., Atlanta, Ga.
Missouri-Kansas-Texas Lines, Dallas, Tex.
Model Land Company, (Flagler System), St. Augustine, Fla.
New Orleans Asso. of Commerce, New Orleans, La.
Norfolk & Western Railway, Roanoke, Va.
Parkersburg, W. Va., Board of Commerce.
Reynolds Bros. Lbr. Co., Albany, Ga.
Tennessee Central Railway, Nashville.
Texas Power & Light Co., Dallas, Texas.

SKYLIGHTS.
Milcor Steel Co., Milwaukee, Wis.

SLABS (Concrete Floor.)
Federal-American Cement Tile Co., Chicago.
—(Concrete Roof.)
Federal-American Cement Tile Co., Chicago.

SLAG, For Concrete.
Gloss-Sheffield Steel and Iron Co., Birmingham, Ala.
Woodstock Slag Corp., Birmingham, Ala.
—(Furnace.)
Gloss-Sheffield Steel and Iron Co., Birmingham, Ala.
Woodstock Slag Corp., Birmingham, Ala.

SLINGS (Chain.)
Woodhouse Chain Works, Trenton, N. J.
—(Wire Rope.)
American Steel & Wire Co., Chicago, Ill.
Boehling's Sons Co., John A., Trenton, N. J.

SLUICE GATES AND APPLIANCES.
Smith Co., S. Morgan, York, Pa.

SNATCH BLOCKS (For Wire and Manila Rope.)
Patterson Co., W. W., Pittsburgh, Pa.

SPEED REDUCERS.
Earle Gear & Mach. Co., Phila., Pa.

SPIKES, (Railroad, Ship.)
Bethlehem Steel Co., Bethlehem, Pa.
Sweet's Steel Co., Williamsport, Pa.

SPRINGS (Machinery, Railway, Spiral Steel.)
American Steel & Wire Co., Balto., Md.
—(Wire—All Kinds.)
American Steel & Wire Co., Baltimore, Md.

SPRINKLERS (Automatic Fire.)
Grinnell Co., Inc., Providence, R. I.
Southern Automatic Sprinkler Co., Birmingham.

SPROCKETS
Diamond Chain & Mfg. Co., Indianapolis, Ind.

STACKS (Iron and Steel.)
Biggs Boiler Works Co., Akron, Ohio.
Birmingham Boiler and Engineering Co., Birmingham, Ala.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Atlanta, Ga.
Downingtown Iron Works, Downingtown, Pa.
Hammond Iron Works, Warren, Pa.
Hedges Walsh Weldner Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
Lombard Iron Works & Supply Co., Augusta, Ga.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
U. S. Pipe & Foundry Co., Burlington, N. J.
Virginia Bridge & Iron Co., Roanoke, Va.

STAINS (Shingle, Woodwork.)
Cabot, Inc., Samuel, Boston, Mass.

STAIR Steps (Safety.)
Irving Iron Works Co., Long Is. City, N. Y.
—Treads.
Central Iron & Steel Co. Harrisburg, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

STANDPIPES.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Atlanta, Ga.
Hammond Iron Works, Warren, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

STATIONERS (Envelopes, Letter and Billheads, etc.)
Smith & Son Co., Oscar T., Baltimore, Md.
Young & Selden Co., Baltimore, Md.

STEAM SHOVELS.
Bucyrus-Erie Co., Erie, Pa.
Thew Shovel Co., The, Lorain, Ohio.

STEAM (Specialties.)
Lunkenheimer Co., The, Cincinnati, O.
Mueller Co., Decatur, Ill.

STEEL.
Bethlehem Steel Co., Bethlehem, Pa.
Central Iron & Steel Co., Harrisburg, Pa.
Dietrich Brothers, Baltimore, Md.
Gulf States Steel Co., Birmingham, Ala.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Oliver Iron & Steel Corp., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Alloy.)
Timken Roller Bearing Co., Canton, Ohio

—(Cold Rolled.)
American Steel & Wire Co., Balto., Md

—(Special Analysis.)
Timken Roller Bearing Co., Canton, Ohio

—(Tool, High Speed.)
Bethlehem Steel Co., Bethlehem, Pa.

—Buildings (Designers and Builders.)

American Bridge Co., New York, N. Y.
Belmont Iron Works, Philadelphia, Pa.
Butler Mfg. Co., Kansas City, Mo.
Carolina Steel & Iron Co., Greensboro, N. C.
Champion Bridge Co., Wilmington, O.
Eichleay, Jr., Co., John, Pittsburgh, Pa.
Ingalls Iron Works Co., Birmingham, Ala.
McClintic-Marshall Co., Pittsburgh, Pa.
Phoenix Iron Co., The, Phila., Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.

—Forms (Curb, Gutter, Side walk, Road.)
Blaw-Knox Co., Pittsburgh, Pa.

—Plate Construction (Riveted or Welded.)

Birmingham Boiler & Engr. Co., Birmingham, Ala.
Birmingham Tank Co., Birmingham.
Bristol Steel & Iron Works, Inc., Bristol, Va.
Carolina Steel & Iron Co., Greensboro, N. C.
Central Iron & Steel Co., Harrisburg, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Atlanta, Ga.
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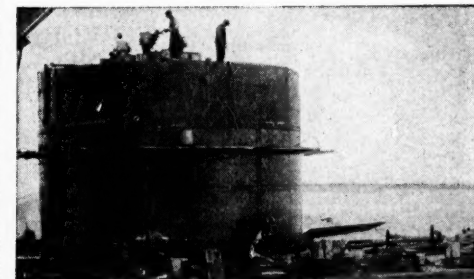
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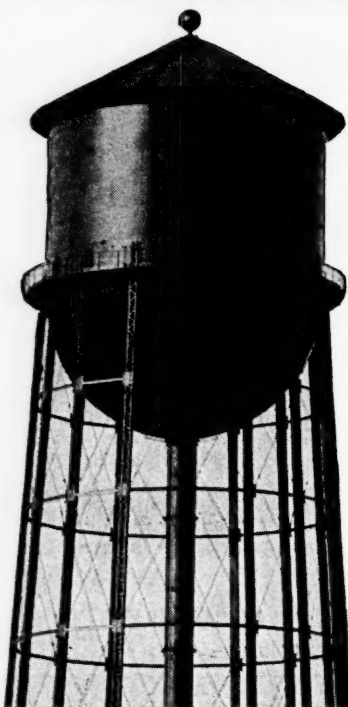
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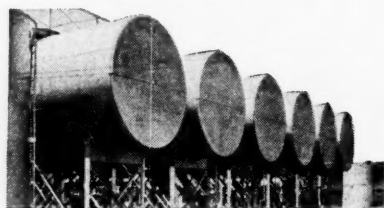
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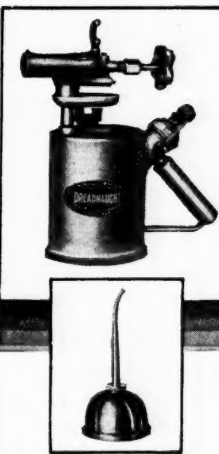
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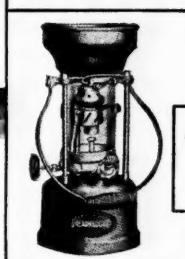
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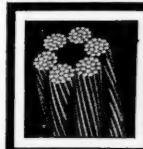
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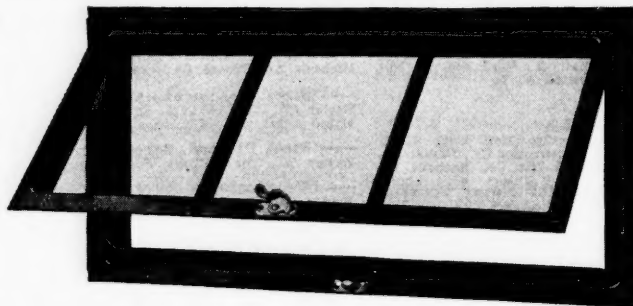
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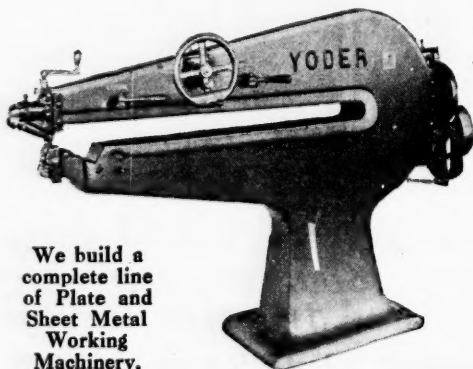


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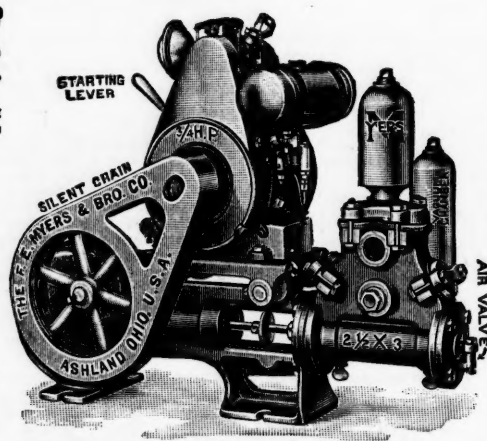
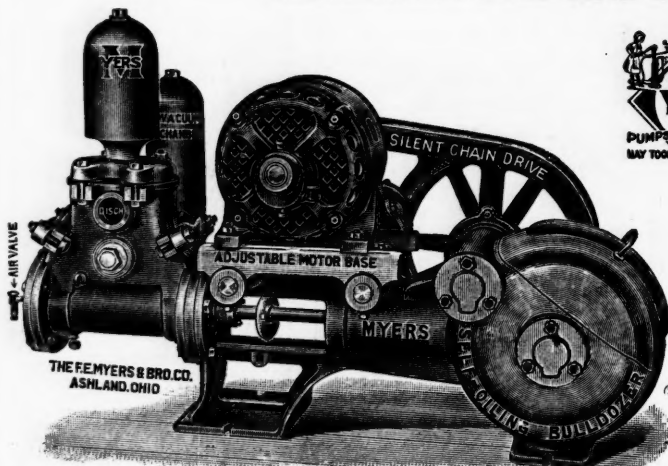
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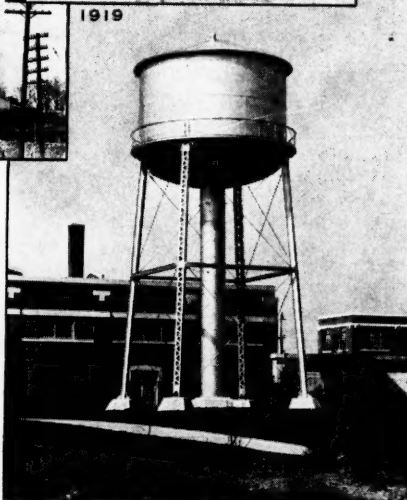
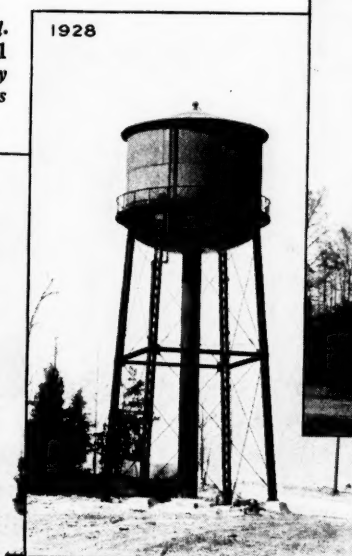
The City of High Point, N. C.

has installed FIVE Horton elevated tanks since 1901

Below: 150,000-gal. tank erected in 1901 to provide gravity water pressure. It is still in service.



The two center views show 50,000-gal. tanks at east and west side sewage disposal plants. Right: 60,000 - gal. wash water tank erected at filter plant in 1919.



1,000,000-gal. tank erected in 1930

THE five elevated tank installations for the city of High Point illustrate three distinct types of service for which elevated water storage may be utilized by a municipality. The oldest tank, a 150,000-gal. and the newest, a 1,000,000-gal. are used to provide gravity water pressure in the water distribution mains.

A 60,000-gal. installation made in 1919 is used to provide water under relatively low pressure and at a high rate for washing filters at the purification plant. The other two tanks are used for general water service at two sewage disposal plants.

The High Point installations also illustrate the long serviceable life of a steel tank. The first tank, now over 30 years old, is serving right along with the new 1,000,000-gal. tank. True the city outgrew the capacity of the old tank, but it is still providing 150,000 gallons of storage and gravity pressure just as efficiently and as dependably as it ever did.

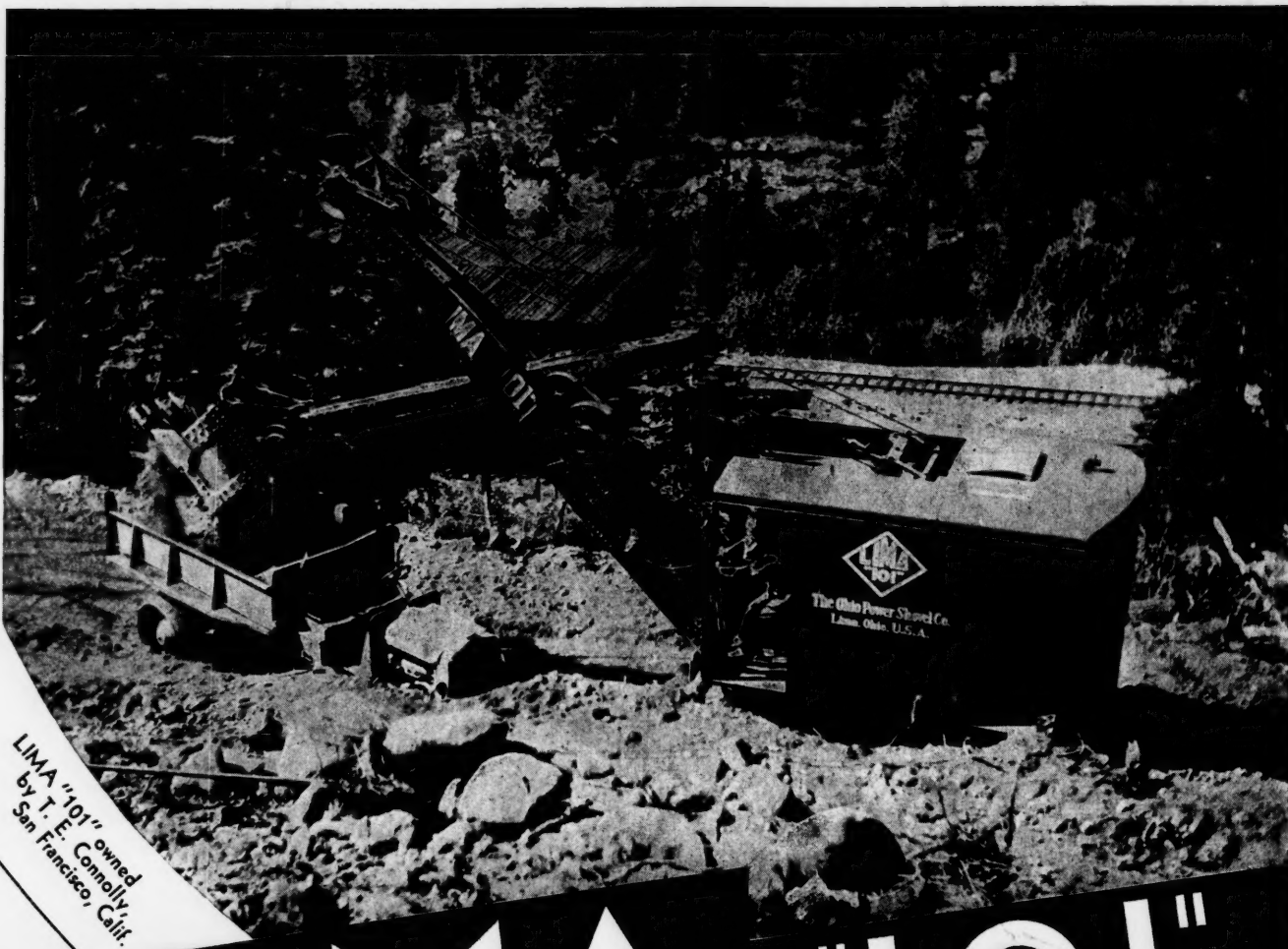
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B-216

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